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SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

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January generally sets us thinking on the doings of the past year, and in an active and growing branch of science this can never be a dull or an unremunerative task. Fortunately for us, whatever faults we may possess, lack of activity is not one of them, so that our retrospective glasses have plenty to look upon, and not a little to be proud of.

Glancing first of all at the scientific work of the year, there are two contributions which stand out pre-eminently, namely, those by Dr. Black in America, and Mr. Tomes in this country. Both these investigators have brought to light some very interesting facts, which open up a new field of study and thought on the constitution of the teeth. The old cry of "deficiency of lime salts" as the main predisposing cause of caries seems to have vanished before their researches, and we shall have to look for something else to account for the great degeneracy of the teeth of the present generation. The "Translucent zone" has again formed the theme of an interesting discussion, and the papers by Mr. F. J. Bennett and Dr. Miller of Berlin clearly show that it is at any rate difficult with our present knowledge to state whether the "zone" is or is not the result of vital action. A large amount has been written upon the subject of coagulants and non-coagulants in the treatment of pulp canals, and points have been raised the elucidation of which will place our treatment upon a sounder and more scientific basis. The nature of Nasmyth's membrane has been dealt with by Mr. Paul, and he has brought forward and described appearances which lend some countenance to the possibility of this tissue being epithelial in origin.

An interesting communication on enamel, by Mr. J. Leon Williams, has also recently been communicated to the Royal Society by Professor Schäfer. This paper embodies the results of investigations in the structure and development of the enamel, which have occupied the author for some time past, and is very completely illustrated by a fine series of preparations and photographs.

According to Mr. Williams' view, the enamel is formed, not by conversion of the ameloblast cells into enamel, but by a secretive process, or deposit of the calcific material. He describes an intimate vascular network in the cells of the stratum intermedium of the enamel organ. Dr. Lionel Beale had previously described a vascular network in the stratum intermedium, and Prof. Howes and Mr. Poulton have seen this network in the enamel organ of the rat; but Mr. Williams dwells upon the relations of the cells of the stratum intermedium to a true secreting tissue, and apparently considers that the cells of the enamel organ secrete a granular plasm, and that in this granular plasm the calcospherites are deposited.

The author has also succeeded in obtaining some very highly magnified photographs of the enamel prisms with their striæ, and he considers that they conclusively show that the striæ are a true structural peculiarity of the enamel, and are not due to the action of acids, as some observers have held; he considers they may be due to a rhythmic simultaneous action of the cells concerned in calcification.

Whether the views embodied in this paper be accepted or not, it is a very interesting contribution to the study of this most difficult of tissues to investigate. To avoid errors of observation as far as possible, the author has made use of many different processes in the preparation of his specimens, and we shall look with interest for the full publication of the paper.

A valuable addition to our knowledge of the behaviour of amalgams has been made by Mr. Tomes, who, in a paper before the Odontological Society, has shown that old amalgam reheated does not alter its shape, but sets rapidly, the rapid setting being reduced by the admixture of new amalgam, with, however, this disadvantage, that the greater the amount of new amalgam added the less is the chance of obtaining a water-tight filling.

A most exhaustive enquiry into the use of chloroform in dental surgery has been made by Dr. Hewitt, and his paper, which we printed in our November issue, must be regarded as a very valuable addition to our knowledge on this subject.

During 1895 a large number of actions connected with the profession came before the different law courts, including two for evasion of the Dentists Act. Of these one was undertaken by the Executive, and is interesting as being their first prosecution in Ireland; the other was brought by a private individual. In both cases convictions were obtained. In two cases, namely, at Southampton and London, people, barbers by trade, have been convicted for obtaining money under false pretences, in both instances "scaling" and "cleaning the teeth" being the lever for extorting the money.

A Dental Hospital has been founded at Newcastle, and the record of the work done shows very clearly how such institutions are needed in our big provincial centres. Another welcome sign is to be found in the new appointments to hospitals, schools, and kindred institutions which have been made during the year.

Two new Dental Societies have been formed, namely, the local Dental Association of Preston, and quite late in the year, the Liverpool District Odontological Society. All the older societies have made good progress, and in connection with the Odontological Society of Great Britain it is interesting to note that they held in February their first dinner.

The Annual Meeting passed off most satisfactorily, and added another proof, if such were needed, of the great value of these gatherings. The Scottish Branch extended us a most hearty and cordial welcome, and those present will look forward to our next gathering across the Tweed, whenever that may be. The reports presented by the Hon. Secretary and Treasurer have already formed the subject of an editorial notice, but we shall not be erring by once again pointing out how eminently satisfactory both were. The report of the Benevolent Fund was excellent, and it is pleasing to note that signs are not wanting to show that the interest taken in the fund by the members is steadily increasing, due in no small measure to the untiring efforts of the Hon. Secretary.

The year will be for ever remembered by the death of Sir John Tomes. It is indeed impossible to estimate how much we owe to his great and self-sacrificing work, but although he has passed away, the memory of him will ever be present in the minds of a grateful profession. Another link, too, of the present with the past has been severed by the death of Mr. James Parkinson. Outside our own immediate circle we have to mourn the loss of Prof. Huxley, Sir William Savory and Mr. J. Whittaker Hulke, while death has robbed our American *confrères* of Dr. Garretson and Mr. T. Chandler, who was for many years Dean of the Harvard School.

The new year has opened with signs of coming storms ; let us hope that they will pass away, and that unbroken peace may lend its aid to the progress of the great march of civilisation.

An Advance in Photo-Micrography.

In our present issue we have a paper by Professor Hunter of Edinburgh, embodying the remarks made at his demonstration in the Microscopical Section at the Annual Meeting in August.

To those who are interested in photo-micrography, Prof. Hunter's demonstration was of the greatest interest, as the method devised and employed by him appears to get rid of some great difficulties in the art as generally practised.

Any one who has had much experience with the photo-micrographic camera knows how extremely difficult it often is to obtain an evenly lighted field. In using high powers the operator is accustomed, when using a lamp, to focus the edge of the flame upon the plane of the object on the stage—using a sub-stage condenser for the purpose. The author considers this to be a grave defect in the present method of photo-micrography, as the photographer, to avoid the uneven illumination of the field then introduced, racks the condenser up or down, producing a general flare all over the object, which interferes with sharp definition. Prof. Hunter does away with the sub-stage condenser, substituting a condenser of his own, and so arranges his apparatus that not an image of the flame, but an evenly illuminated disc of light, is thrown upon the object plane of the microscope. In his demonstration at Edinburgh he employed an ordinary candle; placed in front of the candle was a bi-convex lens of long focus, conveying parallel rays of light to the condenser, which consists of a glass sphere containing water, into the front surface of which is cemented a plano-convex lens. With this apparatus a perfectly even and brilliantly illuminated field of light was obtained around the object, and the great difficulty of centering the condenser, and procuring an even field from the focussed flame, were avoided. The method of illumination may be compared to that employed in the optical projection lantern, where the flat field of light upon the screen is not produced by an image of the flame, but by an image of the condenser.

The photographs shown by Prof. Hunter were remarkable for their extreme sharpness and brilliancy, and the subjects chosen were such test objects as the proboscis of the blow-fly and amœboid white corpuscles of tbe blood. All those who had the opportunity of being present at this interesting demonstration were much struck with the simplicity of the apparatus and the excellence of the results obtained.

A Japanese Dental Journal.

Japan can now lay claim to a dental publication of its own, bearing the name *Shikwa-Igakw-Sodan*. The publication is to appear quarterly, and is produced under the auspices of the only Dental College at present existing in Japan. We wish our Japanese friends every success with their new venture.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

The Annual General Meeting.

MICROSCOPICAL SECTION.

The well-appointed Natural History Laboratory of the University of Edinburgh was set aside for the Annual Microscopical Exhibition. Here was shown a large and important collection of microscopes, microscopic objects, lantern slides, and photo-micrographic apparatus, the first named including Swift's new "four-legged" stand, provided with a recently introduced mechanical stage. The President exhibited this, and explained its various parts. The slides were chiefly of a patho-histological character, several new conditions being for the first time illustrated, and brought prominently before the notice of the members. We refer particularly to the unique specimen shown by Mr. Storer Bennett, of united fracture of the hard parts of a canine tooth, to a series of sections showing defects in the enamel (Dr. Zigismondi's preparations), and to slides of Nasmyth's membrane. The latter were lent by Mr. F. T. Paul, who uses a new process of preparation in order to demonstrate the epithelial nature of the tissue. A marked reticulated pattern was rendered apparent by staining the decalcified membrane with eosin. The cells in some places possessed a cogged, marginal appearance, seen clearly under high magnifications, and their nuclei were most marked.

The exhibition comprised also numerous bacteriological slides of general as well as of dental interest. It is difficult to estimate the real value of all researches in the particular field of dental pathology, and it is gratifying to find that members are not slow to appreciate the advantages of studying the morbid affections of the teeth. They have at their disposal almost unlimited means for the acquisition of specimens, and the memory of the splendid selection of preparations on view this year will, it is hoped, act as a stimulus to the further prosecution of good work in this direction. Throughout the meeting, the slides, which were varied daily under the microscopes, were inspected and discussed by a large number of interested members.

Microscopical Exhibits.

Mr. Storer Bennett contributed, in addition to the section of united fracture, slides illustrative of dilaceration of teeth, and enamel growths on the surface of dentine.

Dr. Carlier lent several excellent physiological preparations, such as the compound eye of the hermit crab, vertical section of teeth of cat *in situ*, spinal cord, and injected lung of cat, and palatal vault of human embryo with the openings of Steno's ducts.

The slides of enamel defects prepared by Dr. Zigismondi were lent by Mr. G. Cunningham.

Mr. Howard Mummery's specimens proved the value of Weil's process, and also the method of staining nerve endings in the dental pulp by means of iron and tannin impregnation. A beautiful series of his lantern slides was on view.

Mr. F. T. Paul's sections of Nasmyth's membrane have already been noted.

Dr. H. Stiles' exhibits consisted of preparations showing the micro-organisms of malignant œdema, tetanus, molluscum contagiosum, sections of gum and tooth (human) associated with a case of myeloid epulis, cocci in dental abscess sac, and a very fine coronal section through the head of a human embryo at the eighth week of intra-uterine life, the development of the palate and Meckel's cartilage with the choroid plexus being particularly well observed.

The development of the teeth and jaws in various stages constituted the greater portion of Mr. Stewart's exhibit. One noticeable section, in which the stellate reticulum of the enamel organ was very marked, was injected with Prussian blue. Mr. Stewart also lent slides of " pristis."

Mr. G. W. Watson's numerous patho-histological specimens were of great interest. They illustrated dentine of repair, osteo-dentine with central capillary, nodular calcification of the pulp (several slides), micro-organisms in putrid pulp, acute partial and suppurative inflammation of the pulp, chronic pulpitis with ulceration of the exposed surface, and other calcareous degenerations of the soft dental tissues.

Mr. Andrew Wilson sent a fine section of a radicular odontome in an inter-maxillary supernumary tooth, and a transverse vertical section of jaw and teeth of tetradon. And the Hon. Secretary exhibited new sections of inflammatory and degenerative changes in the pulp.

PAPERS AND DEMONSTRATIONS.

On Thursday afternoon, Mr. H. MUMMERY gave his Presidential Address (see page 26), in the General Meeting assembled in the Celtic and History Lecture Theatre.

An adjournment was then made to the Public Law class room, fitted for the purposes of lantern demonstrations, and Mr. G. W. Watson gave his communication on "Dental Pathology and Physiology."

The speaker exhibited for Mr. Forgan several lantern slides of photo-micrographs of diatoms, blood corpuscles, &c., taken with $\frac{1}{10}$ in. water immersion, and without the use of a condenser; also some taken with $\frac{1}{4}$ in. objective, in illustration of his method of taking photo-micrographs by means of the light from burning magnesium ribbon. For low powers it only requires to be lit and extinguished again, while for higher power lenses up to the $\frac{1}{15}$ in., one to five inches of the magnesium is sufficient. The slides were much admired and exhibited sharp margins and a flat field, being well in focus even at the margin. Mr. Watson had his photo-micrographic camera fitted up to show this method of illumination, and explained it.

He next showed a series of slides illustrative of the pathology of dental caries and the various micro-organisms associated therewith, also a specimen of artificial dental caries. Next were shown a number of slides demonstrating pathological conditions of the dental pulp, the peculiarities of each being pointed out, viz., hyperæmia of pulp; acute, partial and total pulpitis; chronic pulpitis; ulceration of surface of pulp; suppuration; calco-globulin in inflamed pulp; hypertrophy; fibroid degeneration; fatty degeneration; calcareous degeneration; nodular calcification; dentine of repair; dentine excrescence. A notable example of the latter was shown in the form of a stalactite growing from the roof of the pulp chamber in a lower molar, which had been the origin of very great pain. Osteo-dentine, multiple and single systems, organisms present in putrid pulps; oidium albicans, sporing; bacillus and micrococcus of scarlet fever; tubercle bacillus, colony, culture; anthrax bacillus, culture; anthrax in blood vessels; streptococcus pyogenes aurus; pus from pyorrhœa exhibiting numerous organisms; three slides micrococci, and one bacillus, being cultures from case of pyorrhœa; bacillus, culture from portion of carious tissue. Two epithelial scales from tongue covered with numerous organisms, culture of above organism. Four slides demonstrating the organisms usually found in an unhealthy mouth. Miller's spirillum, from mouth, culture; bacilli and leptothrix, culture from small portion of carious tissue; sarcinococcus, culture, from mouth; bacillus subtilis; bacterium capsaformans, pleomorphic organism. Three slides showing interglobular areas, contour markings, &c.; transverse and longitudinal sections of exostosed teeth; section of abscess sac, interior lined with columnar cells indicating cystic formation; portion of wall of sac showing reticulum of fibrous tissue; epuloid tumour, bony spicules present; enlarged papillæ of hypertrophied gum; radicular odontome in B $\frac{0}{2}$ L. Six slides radicular osteo-dentoma m. $\frac{3}{0}$ long, and trans. sections.

A series of slides was then shown, taken from the excellent photo-micrographs illustrating the physiology of the tooth and pulp, recently issued by Dr. C. Rose: and to finish up with, a number of most beautiful slides, by Mr. A. Pringle, were put on the screen—goicocci in pus cells, cancer bodies, bacillus of leprosy, typhoid bacillus, tubercular sputum, actinomycosis, bovine tubercle, bacillus figurans, comma bacillus, Asiatic cholera, and influenza and malignant œdema micro-organisms. Two photographs of a patient with facial paralysis caused by a lower third molar, which occurred in the practice of Mr. J. Turner, Edinburgh, were also shown, the extraction of the tooth causing subsidence of this condition.

A short discussion on the pathology of the pulp ensued, prompted chiefly by the remarks of the reader of the paper.

The Demonstrations were given at the Dental Hospital on Friday morning. The President showed the method of using the Schanze microtome. In this instrument, which is especially remarkable for its weight and firmness, the tissue, imbedded in paraffin wax, is fixed in a clamp, and the knife, also fixed in another clamp, moves on a planed surface through the section horizontally. Its advantages and method of manipulating were pointed out.

In the afternoon Mr. Dall (Glasgow) gave an interesting lantern demonstration of "Porcelain Inlays."

It was followed by Dr. Grevers (Amsterdam) who threw on the screen several photographs exhibiting congenital defects in dentine and enamel, which he described as occurring in "hypoplastic teeth." The slides showed distinct lines running from the free surface of the enamel to the periphery of the dentine. Parallel to the striæ of Retzius, they behave, both by transmitted and reflected light, similarly to those markings, and are believed by von Ebner, of Vienna, to contain air in the substance of the enamel prisms. According to their development and duration they are classified by Dr. Grevers as (1) hypoplasia cupuliformis; (2) hypoplasia cuspidiformis; (3) hypoplasia sulciformis; (4) hypoplasia semilunaris.

On the motion of the President, Dr. Grevers was thanked for his interesting communication.

Mr. J. F. Colyer then gave a short but important description, with lantern slides, of an unusual case of gemination of teeth, and also a large radicular odontome* (to be found on page 35 of this issue).

Lantern slides of his section of united fracture of the dentine of a canine were next shown by Mr. Storer Bennett. A discussion took place, in which the President, Mr. J. J. Andrew, Mr. Headridge, and others, took part.

Professor Hunter followed with a practical demonstration of a "New Method of the Illumination of objects in Photo-Micrography." (An account of this appears on page 16.)

Votes of thanks were passed to Professor Hunter, Mr. Watson, Mr. Bennett, Mr. Colyer, and those members who had lent slides and apparatus. The Hon. Secretary's paper was postponed on account of want of time.

The meeting concluded by the election of Mr. A. S. Underwood as President, and Dr. A. W. W. Baker as President-elect for the ensuing year. Mr. A. Hopewell Smith was re-elected Hon. Secretary.

Irish Branch.

THE Irish Branch of the Association met (by permission of the President and Council of the College) at the Royal College of Surgeons in Ireland, on the evening of November 16, the President of the branch (Mr. A. W. W. Baker) in the chair. The following were also present: Messrs. J. J. Andrew, Chas. Wall, Shenstone J. Bishop, W. Booth-Pearsall, Frank O. Stoker, Geo. P. Moore, Joseph S. Thomson, R. P. Thomson, Geo. J. Goldie, M. F. Thomson, John O'Duffy, G. W. Yeates, Kevin E. O'Duffy, Herbert Williams, P. O'Meehan, R. Theodore Stack and G. M. P. Murray (Hon. Sec.).

The minutes of the previous meeting having been read and confirmed, the Secretary read letters of apology for non-attendance from Mr. C. S. Tomes, and Mr Elwood (Belfast).

Mr. R. P. LENNOX (Cambridge) contributed a communication (read by the Hon. Secretary) showing how a crown and case were made from a single impression, and other matters of interest.

Mr. JOHN O'DUFFY drew the attention of the meeting to the second last paragraph of the article entitled "Dental Surgery in the Cape of Good Hope," which appeared in the March issue of the JOURNAL OF THE BRITISH DENTAL ASSOCIATION. Referring to suggestions for the amendment of the Act of 1891, the article said "The first (suggestion) 'that every medical practitioner shall be entitled to practise as a dentist'; the second, that the wording of the Act should be amended so as to prohibit the practice of surgical or mechanical dentistry by other than a duly licensed and registered dentist or medical man—a 'consummation devoutly to be wished' by the medical and dental professions here as well as by our Colonial brethren." They had it here stated, Mr. O'Duffy said, it was to be devoutly wished that in England medical men should have the power and privilege of practising dentistry. He thought that statement so startling that it would be well if it was discussed by a branch so important as the Irish Branch of the Association. It was entirely at variance with the spirit of their Act of Parliament, and he asked for an expression of opinion upon it.

Mr. WALL said that, judging from the remarks of Mr. O'Duffy, it was strange their Journal should advocate an injury to the public and an injury to themselves. It evidently advocated that men should be allowed to undertake duties they had not been educated to perform.

Mr G. M. P. MURRAY thought this discussion a "storm in a teacup." They were making a mountain out of a molehill. He considered what was put forward and desired in that article was, that in the first place the same condition of affairs should be brought about in the Cape Colony as existed in this country according to their Act. Medical men had been already empowered by the Act of 1878 to practise dentistry, and the writer of the article merely suggested that it should be confined to those empowered by the Act. He did not think there was anything in the paragraph which went outside the Act of 1878. Though they might wish that Act improved, it must be held by.

Mr. W. B. PEARSALL said he had done a good deal of work in connection with the Dentists Act, and he believed medical men had been deliberately protected. There was certainly dissatisfaction amongst certain practitioners in England, Ireland, and Scotland. He had just returned from "the Land of Freedom," where he had taken great pains to inquire into the state of dental affairs. They had nothing like their Dental Act there—indeed they would be proud of such an Act—but their constitution prevented it, as every State had an Act that suited itself, so that what suited Massachusetts would not suit Wyoming or Colorado. In these Western places they had to put up with rough practitioners. However, the Association of Dental Faculties was trying to make the curriculum the same throughout the States. The tendency was to make the examination there real and progressive. As far as observation led him, he thought all the men elected to the State Boards were determined to do justice to the public and to benefit the profession. Referring to the subject of dental advertising, he had seen hundreds of posters, some twenty-five feet long and six feet wide, all over Chicago and the Western States. He did not think they had anything so bad as that in this country. He had met Dr. Trew, the Dean of the Dental School at Pennsylvania, and Dr. Brophy of Chicago, and they all expressed the same feeling that they would be proud to have the arrangements all over their States as they at home had in their Dental Acts. They should all feel grateful to Sir John Tomes and James Smith Turner for drafting such a fine Act.

Mr. J. J. ANDREW thought the editor of the Journal in this article meant to show that dentistry was working up to their condition in the Colonies—that was the meaning.

Mr. O'DUFFY, in replying to the remarks of the various speakers, said it struck him they had lost sight of a very important matter in the paragraph—that every medical practitioner should be entitled to practise as a dentist, that a medical man could practise mechanical dentistry. Were the dentists who had their profession according to an Act of Parliament satisfied that this devoutly-wished-for consumtion should be carried out—that dentistry should be a refuge for incapable doctors and surgeons, for it amounted to that and nothing more?

The matter was then allowed to drop.

Mr. W. B. PEARSALL moved, and Mr. R. T. STACK seconded, "That the members of the Irish Branch of the British Dental Association beg to offer Lady Tomes and Charles S. Tomes, F.R.S., their deep sympathy in their loss by the death of Sir John Tomes, whose life and work had done so much to advance the welfare of the dental profession." Passed in silence.

On the motion of Mr. PEARSALL, seconded by Mr. ANDREW, it was resolved, "That this Branch of the British Dental Association beg to offer their respectful sympathy to Mrs. Garretson and her daughters in the sad loss they have sustained by the death of Professor Garretson, of Philadelphia."

Mr. J. J. ANDREW gave some notes on a few points in dental pathology and histology, illustrated by lantern slides.

Mr. R. THEODORE STACK read a paper on "Borderland," and exhibited, by aid of the lantern, a series of slides with which he wished to point out something on the border between the different tissues. He had already, he said, brought before the Branch a communication with reference to the margin of the gum and the neck of the tooth, and he now wished to deal with the inner margin of the enamel, and the "Borderland" between the cementum and the dentine. The investigation brought before them the contrast between the outer and the inner layers of the enamel. The moment even the smallest hole penetrated the enamel and reached the inner surface, they had to deal with a tissue most favourable to the spread of caries. There was a distinct sense of touch on the top of every tooth. It seemed to him there were actual "bulbs" of touch on dentine, and there was absolute communication between not only all the different fibres of the dentine, but the ramifications between the fibres of the dentine and the corpuscles in the cementum. In what they were accustomed to call a "dead" tooth—that was a tooth from which the nerve had been extirpated and in which the end of the canal had been filled—it was possible there had been left in the dentine of that tooth a very large vitality connected by the bone corpuscles. Mr. Stack then showed a number of specimens illustrating this subject, which received the marked appreciation of the members.

Mr. H. WILLIAMS read a paper on "Root Filling."*

The PRESIDENT said he gathered from Mr. Williams that he was not in favour of immediate root filling. He (the President) was in favour of doing so as soon as possible upon getting the canal cleansed, thus limiting the amount of treatment necessary. By filling at once they diminished the possibility of future development by opening up the roots. Did he (Mr. Williams) use the alcohol for the purpose of showing up the orifice of the root canal, or drying out the root canal at the beginning of the treatment? His own practice was to avoid the use of any substance that might coagulate the contents of the tubules, reserving the alcohol until he had got rid of all the infected material.

Mr. ANDREW said he was rather a heretic in the matter of root-filling, because as long as they cleared it out it did not matter what they filled it with. He had tried everything, and he thought one thing nearly as good as another.

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* To be published in a future issue.

Mr. G. M. P. Murray held with Mr. Andrew that it did not much matter with what they filled a root, so long as they filled it. On the question of the difficulty of carrying a wisp of cotton wool up into the root canal, he had learned the following plan from their honorary member, Mr. Biggs. He took a Donaldson bristle with the rough part cut off it, and he ground it on four sides so as to make it square. The result was that if they twisted a piece of cotton wool round that, they would never force the bristle through, and could withdraw it if they pleased and leave the cotton wool behind.

Mr. G. J. Goldie, speaking on the subject of root-filling, said that oxychloride of zinc was the only one with which he had been satisfied. He had never known it go wrong, and it was just as easily applied as any of the others. Its mechanical stability could not be doubted, it could not be absorbed, and it acted in every way in establishing a healthy condition at the end of the root. He knew that iodoform as a root-dressing tended to discolour, even under aseptic conditions. Referring to the introduction of a pin, he said when he used oxide it set firmly in the root and could not be dislodged, even supposing they went through a root the ends of which were parallel.

Mr. P. O'Meehan said a material in which he had great faith was gutta percha, softened in the lamp and dipped in eucalyptus oil. He had found it a very efficient and trustworthy stopping for the root.

Mr. Stack said, regarding root-filling, he would confine his remarks to the six upper front teeth. The cases occurring here might be divided into three classes, viz., (1) those in which some vitality remained in the nerve canal; (2) those in which the contents of the canal were without vitality, and where in addition there was a sinus or fistula communicating with the mouth; (3) those in which the nerve was dead and there was no sinus. The first two classes might be met by immediate treatment, but he was not an advocate for immediate treatment in the third class. For destroying a nerve, he believed in their old friend arsenic, used judiciously and removed early. Ordinary arsenious acid ground fine by the dentist himself, put in in small quantity, with a dressing over it of a saturated solution of cocaine in oil of cloves, hermetically sealed, would be found very painless and efficacious.

Mr. Williams, in the course of his reply, stated that if he had opened up the nerve cavity thoroughly, he would dry the tooth thoroughly. He never used alcohol down the root of the tooth until the tooth was quite sweet. It was used with the idea of desiccating the canal. He had never seen a tooth in which discoloration resulted from the use of iodoform.

The proceedings then terminated.

Southern Counties Branch.

THE next meeting will be held at the Cottage Hospital, Beckenham, on Saturday, January 25, 1896, at 3 o'clock.

12 a.m.—Dr. Walker kindly invites the Council to lunch with him at Wolverton, Beckenham.

1 p.m.—Council Meeting.

3 p.m.—General Meeting.

Mr. A. E. Baker, L.R.C.P., M.R.C.S., L.D.S.Eng., will read a paper on the treatment of "Persistent Periostitis;" Mr. J. O. Richards, M.R.C.S., L.D.S.Eng., will give a demonstration on "Porcelain Inlays."

6 p.m.— Dinner (tickets 5s. each).

N.B.—The Cottage Hospital is situated in the Croydon and Penge Road. The dinner will be held at the "Railway Hotel." Gentlemen intending to be present should notify the Hon. Sec. before January 21.

FRANK V. RICHARDSON,
Hon. Sec.

Metropolitan Branch.

THE Annual General Meeting will be held on Thursday, the 30th inst., at 40, Leicester Square, at 8 p.m. Council meeting 7.30 p.m.

SYDNEY SPOKES, *Hon. Sec.*

Original Communications.

New Method of Illumination for Photo-micrography.

By JAMES HUNTER, F.R.C.S., F.R.S.E., &c.

LECTURER EDINBURGH MEDICAL SCHOOL, AND PROFESSOR OF PHYSIOLOGY NEW VETERINARY COLLEGE.

As I had the honour of bringing the subject of this paper before the recent Edinburgh meeting of the British Dental Association, and was then afforded the opportunity of drawing attention to the main points of the method, I now feel very much in the position of one rehearsing old matters, the more so that, in addition to that demonstration, I have already given at considerable length a description of the whole subject, theoretical as well as practical, in the *Proceedings of the*

Scottish Microscopical Society for 1894-5. And even then the subject was not new, for, as explained in that paper, I was simply putting into readable form the subject matter of a former paper and demonstration which I had given to the Scottish Microscopical Society nearly five years ago, at which time that Society published no journal. On reading the second paper on this subject in May last, and re-exhibiting the identical pieces of apparatus used on the former occasion in 1890, I took occasion to point out as excuse for what looked like a resurrectioned affair, that an extract of a paper by Dr. Köhler under the same title had appeared in the April number of the *Royal Microscopical Societies' Journal* for 1894, containing a short account of what were essentially the main features of my method, mentioning it as being entirely new, and claiming it as the device of that author.

On the first occasion I had not as yet made actual photographic trial of the method; the demonstration was like that given recently to the Dental Association, purely optical, and dealt simply with theory; on the second occasion, however, I made my first attempts at photo-micrography, without special camera or appliances, a few hours before the paper was read, and not only was I delighted to find the results corroborative of my theoretical contentions, but those experts who saw them were good enough to say they were most excellent. Transparencies from these first attempts were shown by lantern at the Dental Association meeting. Among them were photo-micrographs of fresh blood cells done by a $\frac{1}{16}$ in. oil immersion lens with an ordinary candle as a light source, and exposures of from 8 to 30 seconds, using "cadett plates" of medium speed with the ordinary pyro and ammonia developer. In these the outspread processes of several white cells were beautifully seen. Others were from rather difficult vegetable subjects, and all showed markedly clear contrasts between the lights and shades, without the almost universal defects of photo-micrographs generally as compared with other branches of the art—blurring of contours and general flatness all over as if from scattered light.

As all were done by ordinary objectives uncorrected for photography, the improved results could only be due to the method of illumination.

No one can, I think, deny that in all branches of photography the *lighting* is a most important factor, and that no conditions are so trying and likely to lead to poor results as where the subject is placed directly between the lens and a bright light beyond. Look for example at the general unsuccessful rendering of the delicate tracery of such objects as foliage, lace curtains, &c., against a bright background, such as the open sky. Now these are just the very conditions under which the photo-micrographer must work, unless he be dealing with opaque objects, a small and unimportant class.

As the editor of the *Scottish Microscopical Journal* has kindly allowed the use of the plates, I have been enabled to utilise those which seem suited to the requirements of this short account. Space alone prevents me going here into optical theories, but I hope to be able to show, without mathematical treatment, the reasons of the advantages which this new method possesses.

To commence with, I may state that the main difference between my method and all others where an artificial light source and condenser are used, *is the projection of a uniformly illuminated disc upon the object-plane instead of an image of the light source.*

The beautiful uniformity in the illumination of the field and absence of all flare thus secured, while no doubt a considerable gain (being, indeed, all that is claimed for the method by Dr. Köhler), is only one of its advantages, and in my opinion by no means its greatest.

Inspection of figures 1 and 2 will reveal how this is produced.

Fig. 1 represents to scale $\frac{1}{8}$ my original scheme as shown in 1890, and with which the results shown were produced.

Fig. 2 is the arrangement shown, presumably to full scale, in Dr. Köhler's paper in 1894. To anyone accustomed to look at such figures it will be evident that the essential characteristic of both is the projection of a convergent set of pencils of *parallel rays* upon the slide. Both figures being lettered to represent similar parts, A_1 A_2 indicates the light source, Sl a lens which is so placed as to form an inverted image of the light source in the anterior focal plane of the condensing lens C, and o_1 o_2 the image upon the slide, neither of the light source A_1 A_2, nor of its image upon the plane A B, but of the exposed area of the lens Sl.

To use a phrase well known to optical readers, this lens reduces the luminous waves passing through it from A_1 A_2 to the same phase, and hence its whole area is one blaze of brightness which, upon being brought to focus by the condenser C, produces a neat and evenly illuminated disc of light, like a lantern screen in miniature. This imaged disc is further of really *no thickness*, representing approximately the plane passing through the optic centre of the lens Sl. For reasons connected with this I prefer Sl of a double convex form, and not plano-convex as Dr. Köhler shows.

Readers possessing but slight acquaintance with optical intricacies will easily note the exact similarity of the conditions between C and o_1 o_2 to those just outside the eye-lens of a telescope or microscope, the small bright spot there produced by a confluence of parallel beams being an image, not of any part of the object, but of the object glass itself.

Several workers in photo-micrography who, even many years ago, produced excellent results, found the use of parallel rays of great benefit with many ill-defined objects, such as most animal tissues are, but in so far as their use is here combined with all the advantages of width of angular aperture in the condenser, the system I advocate is unique. Before going further it might be well to compare micro-photography with macro-photography under similar conditions of light, or at all events with image projection as in the optical lantern, which in reality is only a photo-micrographical apparatus of somewhat different proportions. As normally arranged the lantern disc and its smaller, but similarly illuminated, counterpart on the plane of the slide, show uniform luminosity all over, and there is certainly no image of the luminant formed on the slide.

Do this by shifting the position of the light in the lantern, and no one will, I think, admire the result—yet this is actually what is recommended by microscopical authors and the compilers of optical catalogues—" focus the flame carefully upon the slide by adjusting the condenser." In practice, however, this is never carried out, for the mottled result compels the operator to rack the condenser in or out till a general flare all over has replaced the neatly focussed image of the flame. This condition is really very different from that of the disc above mentioned, and errors much worse than mere want of equality of illumination are now introduced, or rather errors due to *thickness of flame image are intensified.*

It is unnecessary to explain here how a condenser uncorrected for spherical aberration, still further intensifies this error by bringing a whole line of flame images to the object-plane, and therefore for old or new systems alike, an aplanatic condenser becomes a necessity. If achromatic also, so much the better (although above 30° of angular aperture the dispersion error is much the least of the two).

For this reason I prefer to use a well-corrected condenser at C, instead of the simple plano-convex lens shown by Dr. Köhler. Should intending workers with this method wish to try the arrangement seen in fig. 2, it will be necessary however to alter the curves of Dr. Köhler's figure, for with the distances shown the lenses have double the requisite radius. I have inserted the curves suitable for the other proportions in unshaded lines.

The condenser C shown in fig. 1 is a flint glass sphere of 4 in. diamater, with a crown glass lens of suitable radii cemented in position, and the interspace filled with pure water; it is of wonderful perfection in its aplanatism, and has advantages of its own entirely apart from the merits of the system in which it is employed.

I have not found it necessary to use the diaphragms seen at *sb* and J in fig. 2. The diaphragm at A B, however, is very essential, and is required to limit the angular aperture of the condenser C to somewhat less than that of the micro-objective, an experience which is universal among micro-photographers.

When in adjustment, which is easily accomplished, it will be seen that no local differences of brightness in the flame show upon the disc at o_1 o_2. Place a wire across the flame and the small disc shows no trace of it, but is simply, to the extent of the opacity introduced, so much the less bright all over.

This property is in itself a very great advantage.

On the other hand, specks upon the lens S*l* show at once, and that lens must be free of marks.

The more serious defect—that of light reaching what ought to be clean shadows, the bugbear of all photographic methods—I shall attempt to explain by reference to figs. 3 and 4. I have here suppressed all mathematical formulæ and trusted to simple geometrical projection, which to the average reader ought to be clearly enough understood.

Fig. 3 is drawn to represent the images of a series of dark and light spaces 1, 2, 3, &c., on the plane of the object A B. The images of these, 1′, 2′, 3′, &c., at C D, as formed by the lens P are, for the sake of avoiding unnecessary complication, supposed to lie all in one plane and be equally in focus as if they had been produced by a pin-hole at *v*.

This first condition supposes the object to be its own radiant, as where the object is self-luminous, or where an infinitesimally thin luminous image is focussed on the object-plane, as for example, by my method, or by using a heliostat and the solar disc. In this case with P, a perfect lens, the margins of the spaces are exact boundaries between light and darkness.

A second condition supposes a radiant beyond the object-plane as at *a;* such in fact as may easily be produced from depth of flame image reaching to that part, or from aberration in condenser, or from both. This radiant *a* shining through the light space between 3 and 4 will be brought to focus at *a*, from which point the rays will again diverge until, on meeting the image-plane C D, they project a bright spot L*a* which no longer agrees with that produced by rays emanating from the plane A B, but is found to overlap outwards (as shown by the double thin lines), so that the margin of the dark space 4 is shone upon by false light and its edge blurred by a penumbral haze.

A third condition supposes a radiant on the same plane as *a*, still beyond A B, as at *b*, the rays from which do not cross the axis before meeting the lens P. In this case an image of *b* is formed at *b*′, and a divergence and overlapping of light upon what ought to be left dark is produced as in the former case, only here at L*b* the overlap is inwards instead of outwards.

By this reasoning it is easy to see how a plane of radiants in that position, such as condensers by the ordinary method will produce, will on every side encroach upon the proper contours of all dark parts of the image, with a penumbral haze or flare, and upon narrow and delicate parts of the image, this flare will cover the entire area of what ought to be in shadow.

A fourth case may be supposed, having radiants *within* the object-plane as at *c*; the image of the radiant point being at *c*′, and the overlapping at L*c* where the margin of dark space 2′ is spoiled, as in the other cases shown in the figure, which is carefully projected and is not exaggerated for diagrammatic effect. (The thin double lines at L*a*, L*b* and L*c* are merely shifted out of the plane C D to prevent confusion.)

Some may be inclined to remark that were the above phenomena always present when condensers are used in the ordinary way, the effect would be intolerable, either visually or photographically. Certainly it would, if the same proportions existed as fig. 3 shows, but the distance between A B and these troublesome radiants is here made much greater than what could occur in practice, in order to be capable of rendering the effect appreciable by projection. With a long posterior conjugate, however, as necessitated in camera work, the above effect is easily discernible—it is only too prominent.

A full categorical description of all the points and lines in fig. 4 would here be out of place, but with knowledge of the phenomena presented by fig. 3 the reader can easily do that for himself. Fig. 4 represents the conditions on the object-plane and near it, when my system is used. Here innumerable rays are crossing so as to form radiant points, those of which lying on either side of A B might be supposed to produce the same defect fig. 3 was intended to point out. The light space *l m* is chosen, through which rays from several radiants are supposed to pass, just grazing its edges. From *c*, one of the parallel intersections, rays pass to *l* and *m*, and leave these points to produce effects exactly as if they had emanated from them, and so the line *c l*, refracted at *t* and *v*, comes exactly to the image margin at *l*′. Similarly, *c m* refracted at *s* (at *r* entering without change), comes exactly to the true image margin at *m*′. Other parallel intersections, such as *a* and *b*, can for same reasons be seen to be harmless as adverse radiants. Not so, however, with such radiants as *d* and *e*, for while *d l* acting exactly as *c l*, is safe enough in passing by *t u* to *l*″, and coinciding there with *l*′ the true image margin, on the other hand, *d m* in passing by *o p* in reaching *m*″, is found to some extent overlapping the contiguous dark part of the image.

The radiant at *e* is still worse, for it produces displacement of both *l* and *m*, l''' at the image plane falling short of the margin, and m''' producing a still greater overlap upon the neighbouring dark space than the radiant at *d* did.

But finally, no such radiants as *d* or *e* can exist in my method, as the lines from these radiants do not belong to the parallel system.

The above almost necessarily tiresome description of lines and points leaves me almost no space to speak of interference phenomena, although it is well known that much of the bad definition of contour is due to edge interference bands. Physicists generally assert that these phenomena are most pronounced with narrow angle radiants, and the experience of practical microscopists fully bears out this statement.

A wide angle condenser is the best cure for this defect. With free radiants such as flames or flame images present, angles of radiation down to the most evanescent exist in plenty; in my method no angle smaller than that at which the beams intersect can exist.

As an experimental proof, any one may by the following simple plan convince himself of the truth of the phenomena shown in fig. 3. Place a lens, preferably of the thick plano-convex type like a single micro-front, and of sufficient size to handle easily, so that by using a card having a few perforations as an object, and a light behind it, bright images of the perforations are formed on a screen on the contrary side of the lens. The illumination most suitable for the experiment will be got by rendering the light from a lamp or candle approximately parallel before it impinges on the perforated card. Focus the image as sharply as possible. Next introduce a taper behind the perforated card, somewhat in the positions of *a* or *b* in fig. 3, and at once the previously well defined spots in the image will show a decided blurr away to one side, outwards or inwards in respect to the axis according as the radiant corresponds in position to *a* or to *b* in fig. 3. (This experiment was demonstrated at the Association Meeting referred to, and is, so far as I am aware, original, although the effects of oblique excentric pencils form some of the most difficult matter in our optical treatises.) Finally, I would have it clearly understood that the merits of the method I have thus imperfectly described do not of necessity depend upon the special form of triple condenser I employ at C.

In its perfect form that condenser ought to be constructed with "worked" surfaces, and for this purpose I completed the computation of the necessary curves five years ago.

Upon trial with an ordinary coffee flask of picked sphericity, and a correcting lens by no means the ideal requisite, I found the action so good that I re-computed the curves for spheres thin enough to be blown, and of course with concentric surfaces. These have upon construction more than justified my anticipations, some of them appearing perfectly aplanatic up to numerical aperture 1·0.

The calculations led to three types, of which that shown in fig. 1 seems to be the most easily constructed.

To summarise in conclusion all the advantages of my method, combined with the use of the special condenser employed, the following may suffice :—

(1) The whole field is equally luminous, no shifting of the flame by flickering, &c., producing flare spots or penumbræ.

(2) The illuminating rays being *parallel*, while the pencils are *convergent*, secures the advantage of both conditions, and angles up to the largest ever used may be employed, with great ease in adjustment.

(3) The alteration to suit the angle of aperture of the objective in use is also easily made.

(4) The heat from the luminant is rendered harmless by position (thus far Dr. Köhler's modification agrees with mine).

(5) The water compartment of the condenser C obviates the use of a separate alum cell.

(6) The same arrangement permits the use of monochromatic light, by simply tinting the water with copper sulphate, &c., thus rendering the condenser practically achromatic; (the form with worked surfaces is really so).

(7) In the same way the water may take the part of the colour screen while using iso-chromatic plates, thus saving loss of light by having only two free surfaces.

(8) As compared with other aplanatic condensers, the corrections are very perfect over all the zones, while the large scale permits easy and cheap construction by any intelligent optician. (Abbe's widest angle condenser has been found aplanatic only to 0·5 N.A., while as stated this simple form can easily be made aplanatic beyond 1·0 N.A.)

From Scot. Micr. Soc. Journal.

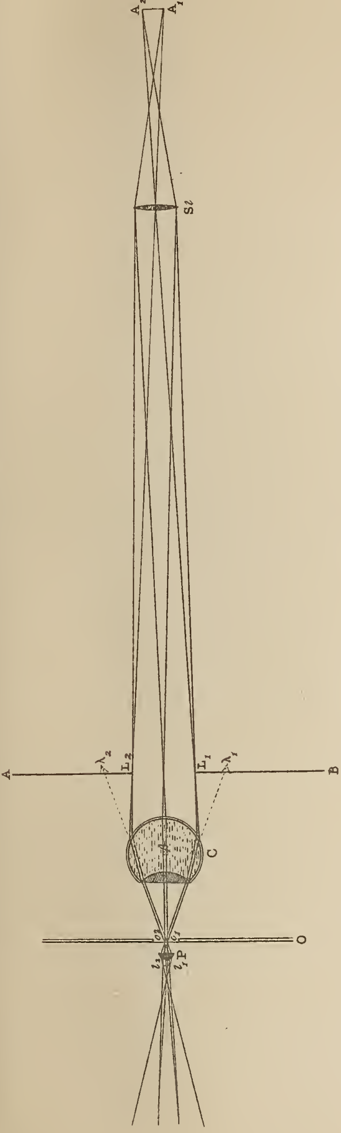

Fig. 1.

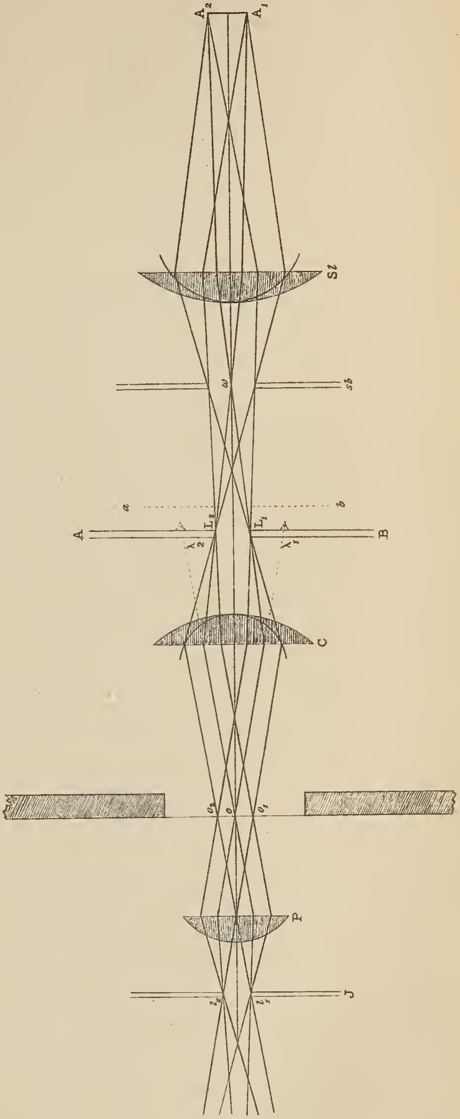

Fig. 2.

J. H. del

PHOTO-MICROGRAPHY

A. RITCHIE & SON, EDINR

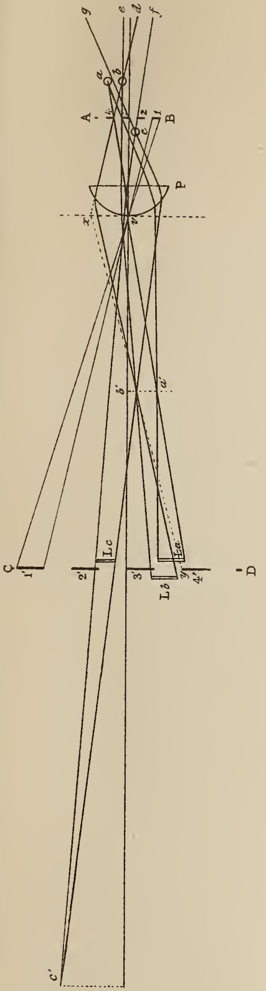
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FIG. 3.

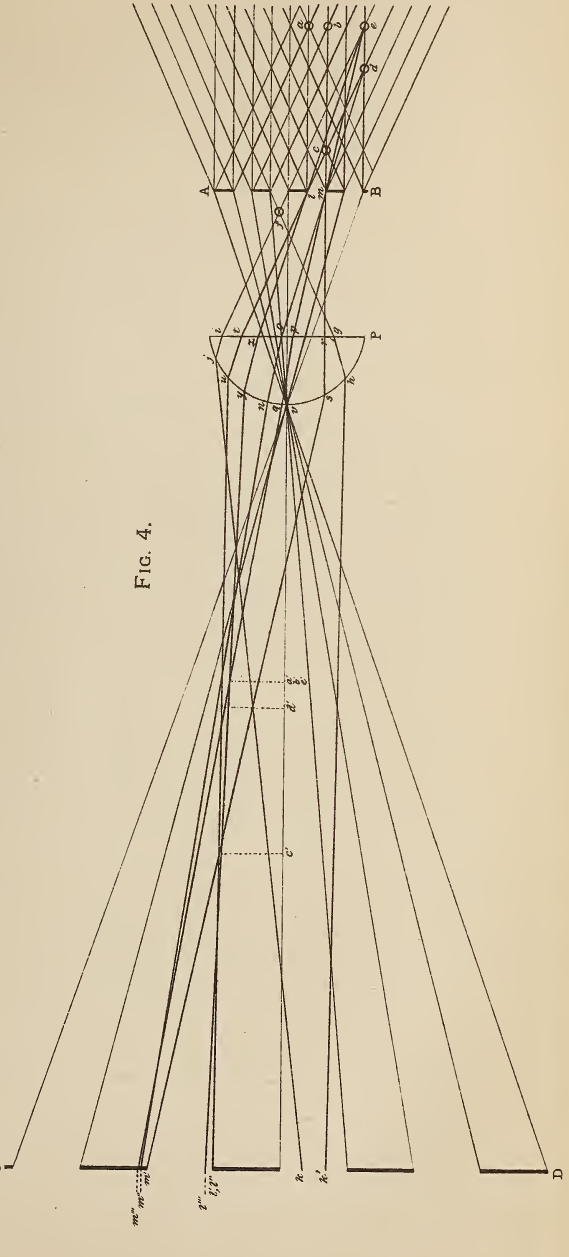
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FIG. 4.

(9) Edge interference bands are apparently completely absent, and show no trace in the photograph.

(10) The difficulties of truly centering the usual small types of condensers are avoided, as the central position of the comparatively large luminous disc can most accurately and readily be arranged with even very ordinary mechanism and manipulation.

DESCRIPTION OF PLATES.

Fig. 1. Scale $\frac{1}{8}$ working size—except that the objective P is shown as 1 in., whereas the angle of aperture exhibited is more suitable for $\frac{1}{2}$ in. objective.

As shown, the parts are as nearly to scale as the smallness of figure will allow, and show the foci, &c., which I have found most suitable for medium powers (about $\frac{1}{2}$·in.). The N.A. is in this instance ·34, but N.A. 1 for high powers can easily be produced by inserting a meniscus lens between C and O, or by using a separate globe if high powers are most used.

Diameters Sl = $2\frac{1}{4}$ in., C = 4 in., $o_1 - o_2 = \frac{3}{8}$. Distances A_1 − Sl = $10\frac{1}{2}$, Sl − $\beta = 29\frac{1}{2}$, $\beta - O = 5\frac{1}{2}$. Focal distances Sl = $7\frac{3}{8}$, C = $4\frac{3}{4}$. By inserting a smaller diaphragm at A B, to 20° = N.A. ·17 it will act well with 1 in. objectives. The opening at L_1L_2 is arranged as shown to receive the whole useful part of a candle image, with Sl placed as in the figure.

The accurate proportions of curves in C cannot be shown on this small scale; besides, the figure only represents the scheme of one of the four types devised.

Fig. 2. Apparently something near full scale, but no numbers are given in Dr. Köhler's paper.

This figure has been copied as accurately as possible from Dr. Kohler's paper.

Although erroneously shown in the original, it can be seen that it is arranged for an objective of about f·77 in. if to scale. The N.A. here = about ·17 which is suitable, but could with similar lenses only with great difficulty be increased. This is more so than apparent, for a mistake has been made in giving C exactly double the radius it ought to have, and Sl more than double. The unshaded lens lines represent the necessary lenses. It will also be seen by computation that l_1 l_2 is wrongly placed too near P; it has not been deemed necessary to correct this. Another error exists in placing A B too near C; *a b* is the correct position *even with* C *altered* to half the radius. Being on a larger scale than fig. 1, and having more rays shown, it allows of the optical conditions between A B and *o* being better seen than in fig. 1, with which it in these points agrees exactly.

(The diaphragm *sb* and J are not present in fig. 1. I have found them to be unnecessary.)

Fig. 3. The figure is too small to be very convincing, but readers should project for themselves on a much larger scale. The geometry of the method is perfectly conclusive.

In this figure the following permissible assumptions have been made to save trouble in projecting, and to produce simple lines for ease of inspection:—

1. The field at C D is supposed to be flat.
2. The lens P, to be non-distorting, acting as a pin-hole.
3. The same lens to be free from all aberration.
4. The lens also of wide angle.
5. $1'$, $2'$, $3'$, $4'$, are perfect geometrical images of 1, 2, 3, 4, as projected from optic centre on vertex of lens.

(While these suppositions are made for ease of demonstration, they do not prevent the same demonstration with the usual practical conditions.)

A cone of illumination, d, b, e, focussing at b, beyond the object-plane A B, diverges from b, and crosses the axis of the pencil at b', from which point it again diverges, and on the plane of C D covers a disc of diameter Lb; this, it will be seen, throws light upon dark spot $3'$, producing a haziness of its edge.[*] Similarly, a cone f, c, g, focussing within the object-plane at c, comes to its conjugate at c'. Here also one of the dark spots ($2'$) has its edge shone upon and confused. With several such radiants, as in the older method always happens, both above and below the object-plane, from either depth of luminant image, or aberration of condenser, or both, every spot has its edges spoiled by haze.[†]

Fig. 4 shows the effect of radiants at the ray intersections, in the method forming the subject of this paper, compared with effects resulting from conditions present in fig. 3.

a, b, c, f. Radiants presented by parallel intersections, and by the rays traced shown to be harmless.

d, e. Radiants of the class shown in fig. 3, which lead to overlapping of false images upon the true.

l'''—m'' m''' point to the margins of these false image overlappings.

c', d', and a', b', e'. Nodal points.

r, s, t, u, &c., indicate ray paths which require careful inspection.

(Like the last figure, this is accurately projected.)

Presidential Address.[‡]

By J. H. MUMMERY, M.R.C.S., L.D.S.Eng.

A LITTLE more than 300 years ago the compound microscope was invented by a Dutchman, Zacharias Jansen, and although from its many imperfections its usefulness as an instrument of research was very limited, too much importance can hardly be attached to this discovery, for it has led to the great advances in scientific knowledge we have now lived to see, and perhaps in its many and varied applications may rank among the greatest discoveries of modern times. The great defects in the old instruments due to the coloured fringes caused by chromatic aberration, and the blurred image at the margins due to so-called spherical aberration, were much exaggerated in the compound microscope, where the enlarged image formed by one combination of lenses, the objective is again magnified by another combination, the ocular or eyepiece, and it was not until the combination of glass of different dispersive powers was thought of, and the achromatic lens came into use, that the compound microscope became a really reliable instrument. From that time the perfection of the microscope proceeded with rapid strides, and the immersion lenses, the employment of new glass and of crystal culminating in the apochromatic system of Professor Abbé, have given us the splendid instruments we now avail ourselves of.

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[*] In the same way, a radiant at a produces the overlap at La, which is outwards, instead of inwards as at Lb.

[†] With the fiction of the "principal plane" x v, these effects are not produced, as the dotted line $x\,y$ shows.

[‡] Read before the Microscopical Section at the Annual Meeting held at Edinburgh, August, 1895.

But in 1683 when another great Dutchman, Leeuwenhoeck, sent his first letter to the Royal Society, so imperfect was the compound instrument that he made use of small simple microscopes or magnifying lenses, many of which he ground himself; and possessed as he must have been, of the most remarkable eyesight, and with a keen appreciation of the importance of what he saw, he literally poured in discovery after discovery upon the then infant world of science. It is of some interest to us to remember that the first bacteriological discoveries were made in the mouth.

He described organisms in the mouth now easily recognised as species with which all microscopists are familiar, and ante-dated by a long period, by these truly remarkable researches, the great discoveries in bacteriology which have so markedly distinguished our own times, for leptothrix filaments, spirillum sputigenum and other organisms were described and figured by Leeuwenhoeck, to be rediscovered by Ehrenberg in 1828. It may be interesting to quote from these early letters to the Royal Society; the first is dated September 17, 1683:—

"Though my teeth are kept usually very clean, yet when I view them in a magnifying glass, I find growing between them a little white matter, as thick as wetted flour; in this substance, though I could not perceive any motion, I judged there might probably be living creatures. I, therefore, took some of this flour, and mixed it either with pure rain water wherein were no animals, or else with some of my spittle, having no animals nor air bubbles to cause a motion in it; and then to my great surprise perceived that the aforesaid matter contained very many small living animals which moved themselves very strangely. The largest sort were not numerous, but their motion strong and nimble, darting themselves through the water or spittle as a jack or pike does through the water. The second sort spun about like a top, and were more in number than the first. In the third sort I could not well distinguish the figure, for sometimes it seemed to be an oval, and other times a circle; these were exceedingly small and so swift, that I can compare them to nothing better than a swarm of flies or gnats, flying and turning among each other in a small space. Besides these animals there were a great number of streaks or threads of different lengths, but of like thickness, lying confusedly together, some bent and some straight. These had no motion or life in them."

In this same letter he describes an experiment proving what has been confirmed by Miller and others in recent experiments, that antiseptic agents penetrate but a very short distance, and that the mere use of mouth washes will not free the mouth of bacteria.

He says:—"I took in my mouth some very strong vinegar; then closing my teeth, I gargled and rinsed them very well with the vinegar, and afterwards I washed them very well with fair water; but there were inumerable quantities of animals still remaining in the scurf of the teeth, but most in that between the teeth, and very few animals of the first sort. I took a very little wine vinegar, and mixed it with the water in which the scurf was dissolved; upon which the animals died presently. *From hence I conclude that the vinegar with which I washed my teeth killed only those animals which were on the outside of the scurf, but did not pass through the whole substance of it.*"

This letter was followed by many others in which he describes "scales in the mouth," "the crystalline humour," "generation by animalcules" propagation of plants and animals on bones, timber, bark, &c., on seeds, on insects, in corn and apples and various other subjects, all containing observations of remarkable accuracy, most astonishing when we think of the imperfection of his instruments and of the condition of accurate knowledge in the times in which he lived. As an example I may mention that in the same volume we find a paper on stones imitating shells, in which the author says:—"The imperfect, as well as the complete formation of some of the bivalvular kind are no light argument for their being stones. *But by what means they receive this likeness to shells it is hard to determine.*" From this time the revival of learning in all departments proceeded, now rapidly, now slowly, until after the second decade of the nineteenth century, when law and order more universally prevailed and when the nations had some rest from incessant warfare. From this time to the present, science has advanced by leaps and bounds, and where Leeuwenhoeck could announce fresh discoveries almost every day, and launch out into the most various departments of physical research, now each worker who desires to add to the sum of accurate knowledge, must work away diligently in his own little corner during the whole of the term of life allotted to him. But we still live in an age of startling discoveries, and when we think of the great advances we have seen in our own lifetime, remember what in one department alone—the important one of surgery—has been done by the fruitful labours of Sir Joseph Lister, we look forward to a grand future also for medicine, and the day when the microscopic discoveries of Leeuwenhoeck and those who, so long after, followed him, shall lead to a rare alleviation of the sufferings of humanity, now scarcely more than hinted at, and which, perhaps, only the younger ones among us may live to see.

In dental histology no very marked advances have been made during the past year, but no doubt much good work has been going on which will in due course see the light.

Mr. Hopewell Smith in publishing his excellent work on Dental Microscopy has conferred a boon upon all workers in this field, and we owe him a debt of gratitude for bringing so much valuable material together. Much credit is, I think, due to him for working out this process, which has, I think, given a fresh stimulus to microscopical research, both here and abroad. Dr. Weil died in April after a short illness.

Abroad, Dr. Röse of Freiburg has carried still further his researches into the development of the teeth in the lower animals, and we have to deplore the loss of Dr. Weil, of Munich, to whom the credit is due of adopting Von Koch's method of cutting sections of molluscs to the teeth, and so introducing to us the first process of cutting the hard and soft parts together without decalcification.

A question of dental pathology which has a strong bearing upon our daily practice, concerning the relative penetrating powers of coagulants and non-coagulants in the treatment of root canals, has been the subject of an animated discussion across the Atlantic. The view seems to be widely spread, that when death of the pulp takes places, the fibrils of Tomes, and the sheaths of Neumann undergo decomposition, and that the products thereby formed, even after the thorough removal of the pulp, result in discolouration of the entire tooth and may, by septic emanations, act disastrously upon the pericementum. It does not appear that there is any sufficient evidence in favour of this view, and Dr. Miller has shown that the micro-organisms penetrate but a very little distance along the tubules from the pulp canal in old diseased roots, and that very frequently the root canal in such cases is lined with a secondary deposit which would prevent such penetration; the openings of the tubules being cut off, by this means, from the pulp cavity.

The discussion has, however, been carried on under the assumption that decomposition of the contents of the dentinal tubuli actually does take place, and that therefore in treating root canals, not only the canal itself, but the tubuli, and to be consistent, we should say also the lacunæ of the cementum, must be treated. Dr. Harlan, Dr. Black and others, consider that in the treatment of pulpless teeth for purposes of disinfection, coagulants are not only useless, but detrimental. Dr. Harlan says: " In fact, their use defeats the object to be attained. They coagulate the organic surface with which they come in contact and prevent their own diffusion." On the other side, Dr. Kirk writes, " The use of coagulants, such as carbolic acid, zinc chloride, sublimate, &c., has not only overwhelming clinical evidence in its favour. . . . but it is actually proper on theoretical grounds and fully in harmony with the laws of osmosis." This view is sustained by Dr. Truman, who found "that in proportion to the coagulating power of the agent will be its penetrating force." This discussion cannot be considered as closed, and we shall have to await the results of further experiments before coming to any definite conclusions, but it may be well in this connection to refer to the fact that Miller, long ago, determined by experiments upon pulp tissue in calves' teeth, as well as upon the human tooth pulp, that the most powerful coagulants such as chloride of zinc and sublimate penetrate exceeding rapidly. Sublimate applied in substance to one end of a pulp 1½ inches long will penetrate to the extreme end in 24 hours; far more quickly than the essential oils. We cannot be sure, however, that the coagulants act upon the contents of the dentinal tubules in the same way as they do upon the pulp. I think we may well look upon it as a matter of doubt—if it is advisable to soak the whole tooth from pulp canal to surface with any antiseptic, even if it is possible. We know that the vitality of a tooth is partly maintained by the continuity of the organic matter contained in its spaces with that of the pericementum; does it not therefore appear to be more in accordance with scientific principles to keep the organic matter of the cement, and with it the terminal portions of the dentinal fibrils in their normal condition of vital connection with the pericentum.

I think we may have grave doubts as to whether this decomposition of the whole organic substance of the teeth pre-supposed in this discussion, really does take place. All manifestations of alveolar abscess take place at the apex of the root and never at the neck, where if the whole contents of the physiological spaces of the tooth were in a condition of decomposition, we might certainly expect some manifestation of disease, the course of the tubes being shorter here than elsewhere, and the covering of cementum being very thin.

The old question of the connection of pyorrhœa alveolaris with gout has again been raised. Certainly no special micro-organism has so far been detected in connection with this disease, but Dr. Peirce in America has lately attempted to show that certain forms of pyorrhœa alveolaris are in their origin quite independent of micro-organisms, and are nothing more than the manifestation of a gouty diathesis. This opinion was based on the discovery that the dark brown or greenish deposits on the roots of teeth affected by pyorrhœa were found, on analysis, to contain uric acid and its salts. The significance of this interesting discovery was considerably diminished by the results of analysis published by Dr. Black, who found the same urates in ordinary tartar when pyorrhœa did not exist. This form of pyorrhœa begins at the apex or between the apex and neck of the tooth, the gum in the early stages being firmly attached. Allowing this view of the origin of such cases to be true, we should not expect to find micro-organisms. But Dr. Miller has always found bacteria present in such deposits as are described by Dr. Peirce, so that in the present state of our knowledge on the subject we must look upon the etiology of even these forms of this troublesome disease as not yet thoroughly established.

The world of science has sustained a great loss this year in the death of Professor Huxley; and dental science, especially, has to deplore the still more recent loss of one who may be said to be the father of dental microscopy in this country, for all progress in dental science in England dates from Sir John Tomes' discoveries and lectures on the subject.

Professor Huxley did much work in dental anatomy in former years. He was the first to confirm in this country (in 1854) the observation of Marcusen made in 1849, that the whole of the enamel organ is epithelial in origin, being derived from the epithelium of the mouth, and he thus helped to lay the foundations of a more accurate knowledge of the development of the teeth. Some of his special views as to the development of the enamel have not, however, been confirmed by other observers. He held that Nasmyth's membrane, now commonly believed to be cementum, was the remains of the "membrana præformativa" the name by which he called a membrane covering the dentine papilla before calcification has commenced, and which intervened between the enamel and enamel organ. The existence of the membrane in this position was held by Professor Huxley to prove that the enamel was formed by secretion, being formed beneath the membrane it could not be by conversion of the cells of the enamel organ into calcified enamel. Sir John Tomes, however, showed that the membrane in question was "produced solely by the destructive action of reagents." Lately, however, Mr. Paul, of Liverpool, has thrown some doubt upon the commonly received views as to Nasmyth's membrane, and has contributed some slides to our meeting showing what looks very like an epithelial structure.

Huxley was a grand fighter for the truth, and by his lucid and eloquent writings has done more perhaps to advance the cause of science in this country than any other writer of the century. He fought hard for the cause of evolution, and lived to see Darwin's views of the scheme of things brought into intelligible accord with facts, and a theory which met with such determined and violent opposition accepted by the majority of thinking men.

The aims he had in view, and to which he devoted his life, are perhaps best explained in his own words. "They were," he says, "to promote the increase of natural knowledge, and to forward the application of scientific methods of investigation to the best of my ability, in the conviction which has grown with my growth and strengthened with my strength, that there is no alleviation for the sufferings of mankind except veracity of thought and action, and the resolute facing of the world as it is, when the garment of make-believe by which pious hands have hidden its uglier features is stripped off."

He refused to acknowledge authority, as such, in the investigation of natural phenomena—saying that for the improver of natural knowledge "scepticism is the highest of duties; blind faith the one unpardonable sin."

Sir John Tomes' scientific work began far back in the forties, and so familiar are we with his discoveries in dental histology, and so firmly established are the results of his investigations, that his name is associated with all our studies.

The excellent lectures delivered at Middlesex Hospital were published in 1846 in the *London Medical Gazette* and reprinted in book form in 1848, and were followed by a series of communications to the Royal Society, the first of which, in 1849, was the paper on the teeth of marsupials in which he described the passage of the dentinal tubes into the enamel. Another paper was contributed to the same Society in 1850, on the structure of the dental tissues in the order rodentia, in which he showed that the peculiar and regular arrangements of the enamel prisms which he described, were constant in their appearances in different families of the order.

The important paper "On the presence of Soft Tissue in the Dentinal Tubes," was published in the *Philosophical Transactions* for 1856. In this paper the existence of the soft fibril was first demonstrated, the author being the first to show that a soft fibre connected with the pulp permeated the canal in the calcified dentine, thus "opening the way to a correct interpretation of the nature of the dentine."

Besides these papers, were others contributed to the *Quarterly Journal of Microscopical Science* and other journals, and the justly celebrated "Dental Surgery" which has been the chief text book for our profession since its publication in 1859.

In association with Mr. Campbell de Morgan, Sir John Tomes also wrote a very important paper upon the structure of bone. Apart from the histological work, his paper published as long ago as June 4, 1841, "On the Construction and Application of Forceps for Extracting Teeth," gave the death blow to the old "key," and conferred an enormous boon, not only upon the practitioner, but on suffering humanity.

The influence which Sir John Tomes has had upon the politics of the profession, and all that he has done for us in this direction, it is not my province to dwell upon in this address; but we all owe him a debt of gratitude which only time will fully reveal to us.

His broad, scientific spirit and modesty in enunciating his opinions, are known to us all. Those who came under his influence in the last mellow period of his life, found him still as full as ever of keen interest in what was going on around him; he remained young in spirit to the last few months of his life, and retained that power of sympathy with those much younger than himself which is such a rare quality in advanced age.

He was endowed with a keen insight into character, and an eminently judicial mind, which made his advice of such great value, not only to the individual, but to the profession at large, in many a crisis of its history.

When those of us who were able to be present, met on the summit of one of those Surrey hills he loved so well, to see him borne to his last resting place, we felt not only that we had lost a warm friend and invaluable adviser, but that our profession was like a vessel that had parted with its pilot, and must navigate many a dangerous channel without him.

The one motto of his life was thoroughness, and nothing troubled him so much as to come into contact with a want of this quality in others. It is this thoroughness which made his scientific work so valuable, and which is so necessary in all investigations into natural phenomena. He was possessed with a love of knowledge for its own sake. As Professor Huxley eloquently said :—" That which is true of the infancy of physical science in the Greek world, that which is true of its adolescence in the seventeenth and eighteenth centuries, remains true of its riper age in these latter days of the nineteenth century. The great steps in its progress have been made, are made, and will be made, by men who seek knowledge simply because they crave for it. They have their weaknesses, their follies, their vanities and their rivalries, like the rest of the world; but whatever by-ends may mar their dignity and impede their usefulness, this chief end redeems them. Nothing great in science has ever been done by men, whatever their powers, in whom the divine afflatus of the truth-seeker was wanting. Men of moderate capacity have done greater things because it animated them, and men of great natural gifts have failed — absolutely or relatively— because they lacked this one thing needful."

" That which stirs their pulses is the love of knowledge, and the joy of the discovery of the causes of things sung by the old poet—the supreme delight of extending the realm of law and order ever farther towards the unattainable goals of the infinitely great and the infinitely small, between which our little race of life is run."

Two Cases of Gemination, and their Relation to the so-called "Odontome Coronaire."*

By J. F. COLYER, L.R.C.P., M.R.C.S., L.D.S.

During the last three years, two examples of abnormal teeth have come under my notice which seem to shed some light upon the etiology of many of the so-called " odontomes coronaire."

The first specimen is illustrated by fig. 1. This tooth was removed from the region of the second lower molar. It will be noticed that the crown presented no definite cusps, and converged from the neck to the masticating surface. The lower part of the tooth consisted of a curtain of tissue cemental in character, surrounding what appeared to be a mass of enamel. On cutting a section, the condition shown in fig. 2 was disclosed, and showed that the specimen was really composed of two teeth with single pulp chambers, the one tooth being bent over the other.

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* Communicated to the Microscopical Section at the Annual Meeting, held in Edinburgh, August, 1895.

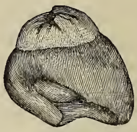

FIG. 1.

The second specimen, for which I am indebted to Mr. T. Clarence, was removed from the upper molar region. An idea of this tooth will be gained from fig. 3. It will be noticed that the greater portion of the crown has been destroyed by caries. The lower part of the tooth consists of a globular mass of tissue covered with a layer of cementum. On cutting a section of this tooth, the condition shown in fig. 4 was found.

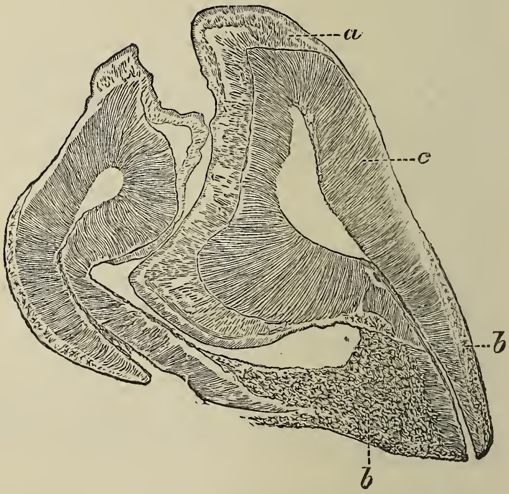

FIG. 2.—(*a*) Enamel. (*b*) Cementum. (*c*) Dentine.

In this case the gemination is not so clearly marked, but viewed by the light of the first example, there can be little doubt that the abnormal arrangement of tissues is due to a gemination, also, of two teeth with single pulp chambers.

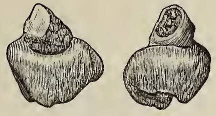

FIG. 3.

I have brought these two specimens forward with the hope that others having similar ones will also be tempted to examine them microscopically and publish illustrated accounts. Without thorough examination, both the specimens I have

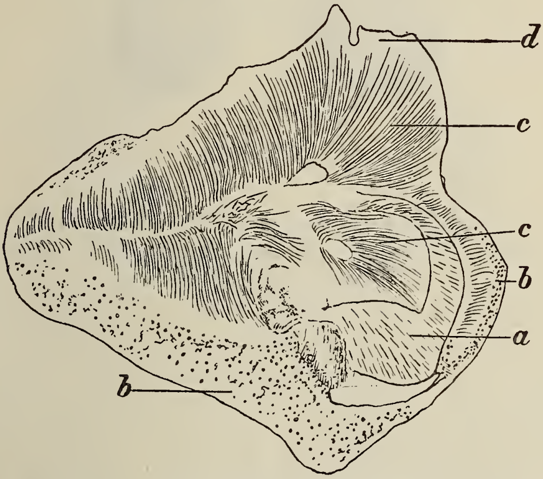

FIG 4.—(*a*) Enamel. (*b*) Cementum. (*c*) Dentine. (*d*) Carious dentine forming portion of crown.

described would probably have been relegated to the class of "odontome coronaire," whereas they are nothing more than specimens of gemination. They show too, pretty clearly, how difficult it is to decide upon the pathology of any abnormal mass of dental tissue without the aid of the microscope.

An Unusual Radicular Odontome.*

By J. F. COLYER, L.R.C.P., M.R.C.S., L.D.S.

The radicular odontome, an illustration of which is given in fig. 5, is, I think, of sufficient interest to warrant a description of it being recorded. The abnormality consists in a large globular swelling about the size of an acorn, involving one root of a four-rooted upper molar (fig. 5). On dividing it with a saw, the globular swelling was found to be hollow, and lined with a tissue which presented distinct evidence of having been soft in character. A thin section was then obtained, and in fig. 6 a somewhat diagrammatic drawing of this is given. It will be noticed that the original pulp chamber is very nearly filled up with a form of secondary dentine (fig. 6, *a*), presenting but little structure, beyond a few blood vessels. The globular swelling itself is bordered by a layer of cementum (fig. 6, *b*), and it will be seen that the lacunæ are more numerous in the right side of the specimen as seen in the figure. This outside cemental layer is bounded: (1) Internally in the right side with dentine fairly regular in type, and continuous with the dentine of the main body of the tooth, this dentinal layer being succeeded by one cemental in character. (2) Towards the base the cemental layer is still covered by a dentinal tissue presenting few tubili. (3) To the left the inner covering of the cemental layer is for the most part composed of tissue irregular in type, containing large blood vessels and irregularly placed lacunæ, with a few dentinal tubes (fig. 6, *d*). This

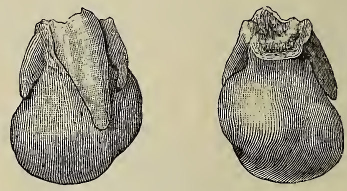

Fig. 5.

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* Communicated to the Microscopical Section at the Annual Meeting, held in Edinburgh, August, 1895.

tissue, as far as can be ascertained, is continuous with the secondary dentine in the pulp chamber. Inside this layer is a tissue of rather different pattern, but still cemental in character (fig. 6, *c*). At one spot, however, a transverse section of dentine appears.

Accepting Mr. Bland Sutton's classification of odontomes, this specimen should be regarded as an aberration of the dentinal papilla, namely, a radicular odontome. The aberration seems to have consisted of an overgrowth in one radicle of the pulp, followed by calcification in a direction from without inwards. Perhaps future specimens may throw light upon this interesting pathological treasure.

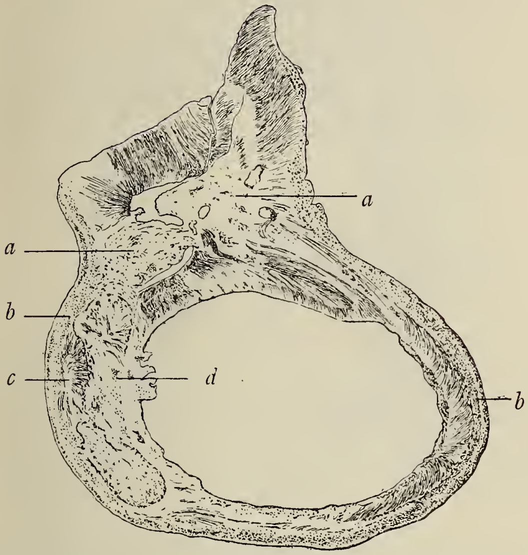

Fig. 6.

For the privilege of examining this odontome, I am indebted to the kindness of Dr. Salisbury Sharpe.

A few drops of oil of wintergreen or cinnamon added to the water to be used in mixing plaster for impressions, will greatly modify the unpleasant taste of the plaster.

Continuous Gum Facings.*

By HARRY ROSE, L.D.S.Eng.

It might be as well to mention that the method of working the material is identically the same as that I introduced some four years ago. The details of this operation have been so often demonstrated and published as to make me feel scarcely justified in repeating them here.

By an inspection of the cases I have the pleasure of submitting to your notice it will be seen that it is quite practicable to so reduce the weight of platinum as to make an upper or lower set but a fraction over the weight of an ordinary strengthened vulcanite case.

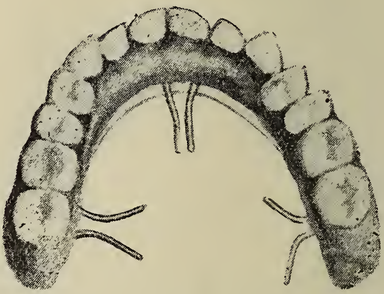

Fig. 1.

Case No. 1 is an example of a facing, it might almost be termed a "gum block" on a platinum plate, with wires soldered to the plate for attachment to the vulcanite base. This form of work is liable to the risk of a serious fracture in the mouth, inasmuch as a portion of the gum is usually involved as well as the tooth. A fracture such as this would be very difficult to repair satisfactorily.

To avoid this risk it is as well to leave the pins of the teeth exposed, so that each tooth has its own separate attachment in the vulcanite, for experience has shown that in such cases the tooth only suffers, and a repair is easily effected by grinding out the remainder of the tooth with a small corundum or carborundum wheel, fitting and revulcanizing another in its place. Fig. 2 is an example of this form of facing, which I believe is the strongest and most reliable. The platinum plate need not be so extensive as shown in the diagram, and it should also be made of perforated platinum.

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* Read at the Annual General Meeting of the Association, held in Edinburgh, August, 1895.

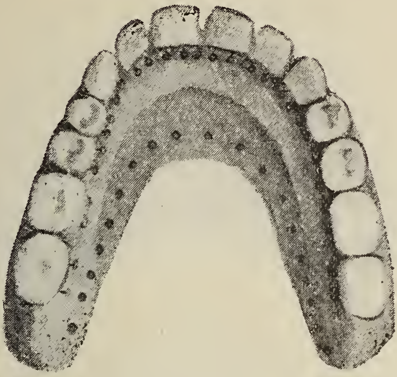


FIG. 2.

Figs. 3, 4, 5, are examples of facings with removable teeth. The lower case is made of perforated platinum, the plate only weighing two and a-half pennyweights. The upper case (fig. 4) shows all the sockets vacant with the exception of the right central.

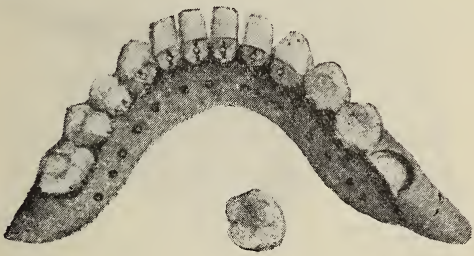


FIG. 3.

Fig. 5 shows the facing in position on the thin rubber plate, and the teeth cemented in their places and ready for the addition of wax to make the palate good, and then for insertion in the flask for packing. It will be noticed that the palate is the only part requiring an addition of rubber.

To insure the ready removal of the teeth they should be lubricated with a little vaseline before packing the compound around them. When the teeth are removed after the compound has hardened, the facing, minus the teeth, should be inserted in a fireclay pot covered up with fine silex, and it is then ready for the first firing. Should there be any defect apparent in the sharpness of a socket, it can now be made good by taking the tooth belonging to it, placing it in position and making it perfect by the addition of a little damp mineral compound; then fire again, if found necessary, the same as

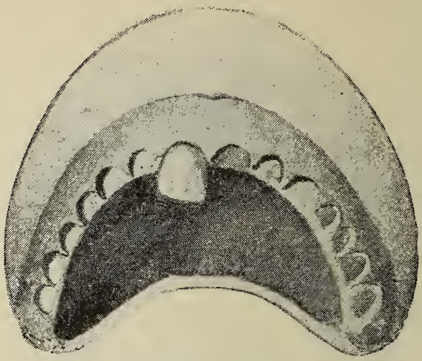


FIG. 4.

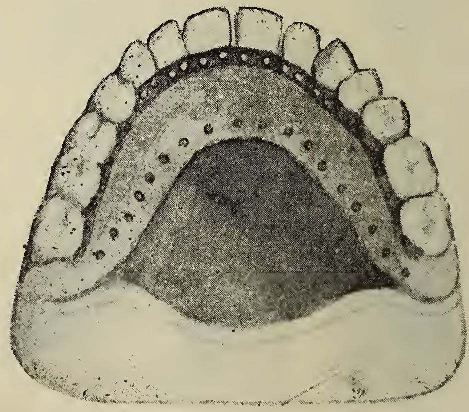


FIG. 5.

before. The tooth of course must be slightly oiled as in the first instance.

When the gum enamel is painted on care must be taken not to let any overflow into the sockets of the teeth. In this form of work it will be seen that the teeth do not go into the fire at all, therefore there is no risk in this direction.

When the facing is completed, the teeth may be fixed in their respective sockets with an extremely thin layer of cement to prevent the vulcanite from oozing into the sockets and under the teeth, and then it is ready to mount in wax and finish off in the usual way.

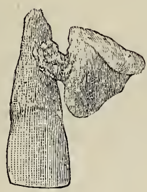
By the reduction in the weight of platinum, and by the elimination of risk in the manufacture, it must be apparent a fee can now be asked that will bring the advantages of this class of work within the reach of the many instead of the few.

A Case of Epulis.

By W. S. HOLFORD, L.R.C.P., M.R.C.S., L.D.S.

Early in October a lady aged 70 consulted me with regard to a swelling which was growing in the front of the mouth, behind and between the central incisor teeth. The growth was of about three months' duration, and had given rise to no pain.

On examination of the mouth, a swelling of a highly vascular character was seen, about the size of half a walnut.



The tumour appeared to be attached to the gum in front; it also passed between the central incisor teeth, separating them about $\frac{3}{16}$ of an inch, and showed itself in the palate in a mass about the size of a cherry stone. On October 11, nitrous oxide was administered, and the two incisor teeth extracted, the principal portion of the tumour coming away attached to the right central incisor, the small portion which remained behind being easily removed with a pair of scissors. The patient was again seen about the first week in November, when the parts were healing well, and there were no signs of recurrence. Microscopical examination of the tumour showed it to be fibrous tissue with inflammatory material. The case is, I think, interesting as showing how alone from clinical symptoms it is impossible to diagnose the exact nature of a growth. The rapidity of growth of the swelling, coupled with its vascular appearance, pointed to malignancy, while the microscopical structure indicated a tumour of an innocent character.

Legal Intelligence.

Prosecution under the Dentists Act.

Ernest H. Richards, of Zingari Terrace, Gipsy Lane, Forest Gate, was summoned at West Ham Police Court, before Mr. Bagallay, for taking and using the title of dentist without being registered as such under the Dentists Act.

Mr. Frederick George appeared for the complainant, Mr. G. R. Matland, a registered dentist, of Romford Road, Forest Gate; Mr. Pettiver defended.

On December 31, Mr. Matland, accompanied by a lad in his employment, went to the defendant's place at Gipsy Lane, and asked to see the dentist. He was told the dentist was engaged, but he afterwards saw the defendant. He told him his "teeth were shaky," and he wanted the assistance of a dentist, and the defendant, after examining his mouth, said he would do what was required for 10s. 6d. Mr. Matland said he would consider the matter, and after he had had the boy's teeth looked at and received the defendant's advice, Mr. Matland asked to have a cast of his mouth taken, and paid 2s. 6d. deposit. The defendant gave a receipt for the money, and also handed Mr. Matland a circular which read, "Mr. Richards, late with Mr. Goodman, surgeon dentist."

Mr. Pettiver admitted that the defendant was not registered as a dentist. He was a manufacturing dentist, and when persons called on him to have operations performed he took them to another dentist.

Mr. Bagallay said the Act was designed to protect the public as well as dental practitioners. The defendant had clearly by his documents represented himself to be a surgeon dentist, but was admittedly not registered. He would be fined £5 and £1 10s. costs.—*The Morning Advertiser.*

Reports of Societies and other Meetings.

The Odontological Society of Great Britain.

A MEETING of this Society was held on Monday, January 13. The report will appear in the February issue.

Reviews and Notices of Books.

GUIDE TO THE MEDICAL AND DENTAL PROFESSIONS, with a Chapter on Lady Doctors (by Miss Strutt-Cavell). By PERCIVAL TURNER. London: Baillière, Tindall & Cox, 20 and 21, King William Street, Strand, W.C., or of the author, 4, Adam Street, Adelphi, W.C. Pp. 152, with index.

THIS is an extremely handy, comprehensive handbook. It contains information with regard to the medical curriculum which will be found valuable to the student. The question of ethics in relation to principals and assistants is fully dealt with, and in addition the reader will find much that is useful about the purchase and sale of practices and partnerships, arbitrations, bookkeeping, &c. The portion relating to dental practice is clearly and concisely written. The information, generally speaking, is reliable, but we are inclined to think that there are few practitioners who can command five guineas an hour for surgical work, or fifty guineas for a set of teeth.

MODERN MICROSCOPY: a Handbook for Beginners. By M. J. CROSS & MARTIN J. COLE. Second Edition. London: Baillière, Tindall & Cox, 20 & 21, King William Street, Strand. (All rights reserved.) Pp. 177, with index.

WE are not surprised that this handy little work has reached a second edition. The whole of the subject matter has been revised, and additional matter on methods of manipulation has been introduced. To those commencing microscopy the information contained in this book will be found of the greatest assistance, and we also think that even those more advanced will find much in its pages that is most instructive.

A.B.C. MEDICAL DIARY AND VISITING LIST. Published by Messrs. Burroughs, Wellcome & Co.

This is a useful little diary of convenient size for the pocket, and contains tables of reference which the busy practitioner will no doubt find of great convenience. In addition to a complete " Index of Diseases and Remedies," there are some carefully compiled Therapeutic Notes, arranged alphabetically and brought well up to date. We are asked by the publishers to say that they will be greatly obliged for any hints or suggestions, for improvements in next year's issue.

Abstracts.

Academy of Sciences Paris.

The Oidium albicans a General Pathogenic Agent; Mechanism of the Attending Symptoms.

By Dr. CHARRIN.

Researches which I have carried out in Professor Bouchard's laboratory, in collaboration with Dr. Ostrowsky, have led to various new discoveries in connection with the oidium albicans.

In the first place they show that the oidium albicans, belonging to an entirely different class of microbes, must be added to agents capable of determining both suppuration and phagocytosis.

In the second place, they explain why a micro-organism develops differently in various tissues. *In vitro*, addition of glucose or levulose to the cultures hastens proliferation of the cotton fungus, a circumstance which would seem to suggest predilection for the liver and other media rich in carbohydrates. Yet the opposite is true, this apparent contradiction being explained by the fact that glycogen is not favourable for the nutrition of this fungus; if the glucose in culture broth be replaced by glycogen, it does not proliferate. Thus the oidium appears to recognise that glucose is present in the hepatic gland only in extremely small quantities, becoming glycogen almost immediately when it reaches the liver, and being carried away through the hepatic veins the moment it is reconverted into glucose to fill the needs of the organism. If these facts, which are now universally accepted, needed confirmation, no better testimony could be obtained than the facts stated above.

In the kidney the parasite is present in such enormous quantities that the organ very soon becomes impermeable. In consequence thereof, the toxicity of the urine of inoculated animals decreases, after having increased during the first few days ; their blood-serum, on the contrary, kills mice more rapidly than normally ; then hypothermia follows hyperpyrexia ; the albuminuria becomes greater, and the drowsiness more marked ; the pupils contract ; glairy diarrhœa supervenes, &c.; in short, auto-intoxication and uræmia are determined by the microbe.

Thus the oidium albicans by direct action, mechanically and by traumatism, as it were, injures the viscera and the tissues, leading to disorders due to impairment of the functions of these deteriorated organs. This mechanical process is partly the result of the fact that the oidium readily passes through living membranes : it passes in large numbers from the kidney into the urine, and from the blood into the intestinal cavity, determining nephritis and pseudo-membranous enteritis. These phenomena throw light on the pathogeny of enterites of this kind, which are of frequent occurrence in man.

The oidium, therefore, acts directly, the influence which it exercises at a distance being but slight. This is the reason why it does not, like the bacteria, determine marked modifications in the glycæmia, the proportion of glycogen, the isotonus of the red blood-corpuscles, the gases of the blood, &c. Histological examination proves that, in proportion as the distance grows longer from the colonies, the lesions become attenuated.

Moreover, the toxicity of the soluble products is slight, from 30 to 40 grammes per kilogramme of weight being required to kill an animal ; these products do not possess any vaccinating power.

Taken as a whole, these facts, which vary somewhat when the conditions of the experiments are modified, show that the oidium, which is influenced, like true microbes, by the amount of sugar, size of dose, portals of entry, physical and chemical agents, &c., brings special processes into play for working mischief.

The oidium produces its effect locally, by direct action, through visceral lesions, and makes but very little use of secretions. Bacteria, generally speaking, on the contrary, employ only in a slight measure these direct mechanical effects, taking advantage of disturbances due to deterioration of the organs, and acting more particularly at a distance through the toxins which they secrete. This pathogenic parallel gives evidence of analogies, but still more of wide differences, between the oidium albicans and the bacteria.—*The Medical Week.*

A New Method of Attaching Artificial Crowns to Badly Decayed Roots.*

By GEORGE H. CHANCE, D.D.S.

A VARIED experience in this special line of practice has led me to believe that, when it is desirable, almost any badly decayed root may be saved and crowned, provided there still remains enough sound dentine to securely hold one end of a small screw-post in place—presuming, of course, that the peridental surroundings are, or can be, restored to health ; but, like all other somewhat complicated operations in the mouth, "hap-hazard" work will not do in such cases. The ground to be traversed must be carefully and intelligently studied, and each step towards the wished-for goal must be taken with due regard to the final outcome.

With these few thoughts I will describe a method whereby such badly decayed roots as have been spoken of may be saved and successfully crowned.

To do this in the most effectual way, I deem it best to take a typical case from my own practice and proceed to describe the operation in full.

The case referred to was that of a gentleman of middle age, and the root to be treated and crowned was a right anterior bicuspid of the upper jaw. The case, when first seen, presented the following conditions : crown entirely gone, decay extending above and beyond the ordinary gingival margin when in a normal condition, gum badly inflamed and entirely covering up the root. The first step in the operation was the removal of the excess of gum-tissue, and, ascertaining that the root still possessed sufficient strength to support a crown, the decay was removed, and the concave depression in the end of the root made smooth with round-ended engine burs, the pulp-canals in the root opened and treated in the usual manner, and the space between the entrance to the canals and the gum margins closed with cotton and Sandarach varnish. The patient was then dismissed for the time being.

At the next sitting the pulp canals were filled, and an impression of the parts was taken in modelling compound, from which a plaster cast was made, and from it dies of Melotte's metal, for the purpose of striking up a thin gold cap to fit the concavity in the end of the root, using enough gold to allow the edges of the cap to extend to the gum margin. When the cap was ready it was adjusted to the root, and, with cap in position, a second impression with "the bite" was obtained, the cap coming away with the impression, which was transferred to the plaster cast. A Bonwill crown of the proper form and shade was then selected, ground, and the upper margins bevelled so that they would just enter and be enclosed by the edges of the gold cap, giving it somewhat the appearance of a banded Richmond crown. The next step was to insert a small screw-post of the proper length in each pulp-canal, which being done, a slot was cut in the top of the cap, large enough to allow the ends of the posts to pass through. The parts were then dried, and the convex surface of the cap painted with a little thick chloro-percha and slipped over the posts to its position on the root, gentle pressure being used to force out the excess of chloro-percha, while a warm blast was thrown on to evaporate the chloroform. The crown was then cemented to its place with oxy-phosphate, and the occluding end in the cavity of the crown capped with gold, the whole forming a firm and very satisfactory piece of work, which, after several months' use, is still doing good service.

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* Read before the Stomatological Club of San Francisco, Cal.

This leads me to say that, in my opinion, the Bonwill crown is not appreciated at its true value, being satisfied that in a large number of special cases much better results can be obtained by the use of a Bonwill crown, or one constructed on the Bonwill principle, in connection with a screw-post and swaged cap to cover the end of the root, than in any other crown in which the pin is directly attached to the porcelain, as in the Logan or other similar crown ; and in the event of future accident causing fracture of the porcelain, the Bonwill crown can be easily replaced without disturbance to the root, or having to do the first work over again, as is frequently the case with pin-crowns.—*The International Dental Journal.*

Case of Mandibular Fracture.

By F. NEWLAND PEDLEY.

On April 23 I was asked to see a patient admitted into Guy's Hospital on the previous day, under the care of Mr. Davies-Colley. There was oblique fracture in the median line, with great displacement of the right side downwards and inwards. The patient denied that he was under the influence of alcohol when the accident happened, and it is probable that the fracture occurred during an epileptic fit. The displacement could be reduced, but firm pressure was necessary to maintain the fragments in correct position. Under such conditions the use of the Hammond wire splint is unsuitable, for the wire bends, or the teeth loosen, and the result is a failure. In most cases of firm displacement the upper jaw should be used as the fixed point of attachment, and the splint should be made with inclined planes along which the fragments of the broken bone can be drawn into position by means of a submental bandage. To accomplish this object I made a modification of Gunning's splint, which was inserted four days after the accident. Next day I was summoned to the Hospital, and found that the splint had been removed and the displacement was growing firmer. The patient had removed the splint in order to eat his dinner, and could not re-apply it. During the night he had been very restless and troublesome, and it was almost necessary to place him under control. Had this man left the Hospital immediately after the application of the splint, as many others have done, we should have lost sight of him for a time, during which fibrous union would have taken place, fixing the fragments and perpetuating the deformity. The proper treatment is to keep the patient in bed, lying on his back in a semi-recumbent position until some degree of union has occurred; the chin should be depressed upon the chest, for in this position the muscles that act on the lower fragment are relaxed. This course was adopted, but the patient persevered in removing his splint. On April 29, he had an epileptic fit in the night.

To fix the fragments firmly I made a splint known as Tome's modification of Mutter's clamp, consisting of a silver cap, lined with gutta percha, covering the teeth and gums of the lower jaw; leaving the line of fracture free in front for drainage. The splint should be warmed over a spirit lamp before insertion, and the surface of the gutta percha should be moistened with oil of cajeput, which is a powerful solvent of gutta percha, and makes it adhere to the teeth very firmly.

I explained to the patient that if he again removed his splint a surgical operation would be necessary, and I gave him a detailed description of the operation for uniting a fractured jaw by wire sutures passed through the bone. His conduct now became exemplary for a week, but he was kept in the Hospital as a precautionary measure. On the eighth day he resumed the practice of removing his splint. I then decided to make a plate that could be secured with wire sutures to the teeth, and Mr. Cave, the Dental House-Surgeon, made a metal splint that covered the lingual surface of the jaw and the masticating surface of the teeth. Opposite the necks of several teeth, spaces were made in the plate for the passage of the binding wires. This splint was affixed on May 17th, and although some of the wires had to be replaced the splint was not removed.

On May 25, the patient suddenly left the ward, owing to his aggressive conduct towards one of the other patients, but he attended from time to time in the Conservation-room, and by the middle of July union was sufficiently firm to have justified removal of the splint in any ordinary case, but I thought it prudent to wait for one more month. During my absence in August the splint was removed; the union was found to be complete, and the line of the teeth was fairly satisfactory.—*Guy's Hospital Gazette.*

Death under "Pental."

THE Deputy City Coroner, Mr. S. Smelt, held an inquiry on Dec. 18, concerning the death of Alice Rebecca Artingstall, 23 years of age, the wife of a lurryman, living in Freeman Street, Hulme. The deceased, it was stated, had suffered pain from her teeth, and on Monday morning she went with a Mrs. Faulkner to the Dental Hospital, in Devonshire Street, Chorlton-upon-Medlock, with the object of having some of her teeth extracted. She expressed her willingness to be placed under the influence of "gas," and, after being medically examined, an anæsthetic, known as pental, was administered. The woman rapidly got under the influence of the anæsthetic, and five of her teeth had been extracted when the medical man, who was conducting the operation, Dr. Prince Stallard, noticed that respiration ceased quite suddenly. Every effort was used to restore consciousness, but all the methods resorted to were unavailing. Dr. Prince Stallard, who gave evidence, said that pental was a purified form of ether, and was largely used by dental surgeons in this country and in Germany. He believed that was the first accident that had ever taken place in connection with this specific anæsthetic. During his ten years' connection with the Dental Hospital there had been no mishap there, though pental had been frequently used. He had administered anæsthetics in about 900 cases, and had never had an accident before. The percentage of deaths whilst under the influence of anæsthetics was generally one in 1,500. In the various Manchester hospitals there would be about 3,000 administrations in the course of the year, and it was extremely rare to hear of a fatal result. As to the particular case under notice, there was nothing to suggest that the anæsthetic should not have been administered.

John Walter Stonor, a student at the hospital, who extracted the teeth, said there was no difficulty at all in that operation.

The Coroner said the case was exceedingly regrettable, but the evidence would appear to show that it was unavoidable.

The jury found that Mrs. Artingstall died from syncope whilst under the influence of an anæsthetic. The foreman also announced, on behalf of his fellows, that they were of opinion that the doctors at the hospital did their best for Mrs. Artingstall, and they expressed their sympathy with the relatives of the deceased.

The Secretary of the hospital informed the court that the institution, a charitable one, had been in existence about twelve years. This was the first accident of the kind they had had, although between 12,000 and 13,000 patients were attended to every year. The authorities deeply regretted the occurrence, and they desired, through him, to express their deep sympathy with the relatives of the deceased.—*The Manchester Courier.*

Lympho-Sarcoma of the Tonsil. Repeated Removals with very Rapid Recurrence.

By W. CHARNLEY, M.D.

THE following case seems worthy of record, both on the ground of its pathological and its clinical interest.

The patient, an old man of 73 years of age, came to the Eye, Ear, and Throat Hospital, Shrewsbury, complaining of difficulty of breathing and swallowing. This had been so for three months, he said. On examination, a spherical tumour, the size of a tangerine orange, was seen, almost completely filling up the fauces. Its colour was, on the whole, dirty pink; but in parts it was ash-coloured, as if from superficial sloughing. It had a narrow pedicle. There were no enlarged glands; and the general health was not much affected, except that the patient was weak from lack of sufficient food, the growth causing great difficulty in swallowing.

On March 28, 1895, preparations were made for the removal of the growth. A ligature of twine was first put on the pedicle, in view of the expected free hæmorrhage, my intention being to afterwards remove the growth with the galvano-snare. When the ligature was drawn tight, however, the tumour, to my surprise, came away at once. There was very trifling hæmorrhage, and in a couple of days the patient was apparently well. He was able to swallow easily and to breathe freely. On April 4 he was sent home to all appearance quite cured.

The tumour had the naked-eye look of a sarcoma, and of a rapidly-growing one. It weighed six drachms. Dr. Webb, of Ironbridge, was good enough to examine it for me with the microscope; and he reported that it was a lympho-sarcoma of a rapidly growing type with foci of necrotic tissue scattered through it. I was then fully prepared for its speedy recurrence; but I confess I was surprised when he presented himself again on April 27 with the tumour as big as ever. It again completely filled the fauces, and caused the same difficulty in swallowing and breathing as before. It was again removed; this time being merely torn off with the finger. It was effectually got rid of in this way, and again with very little hæmorrhage. On May 24 it had grown to its original size again, with the same symptoms; and on this date was cut off with a stout copper wire. This was found to be a simpler and less painful method than the former ones. He was again sent home relieved; but no doubt will come back soon with another recurrence. His general health remains pretty good, but these repeated operations must impair it in time. On the last occasion the tumour weighed five drachms. There seems to be no treatment beyond repeated palliative removals. There was little pain throughout. Tumours of the fauces of any kind are not common. The most frequent is the lympho-sarcoma. Epithelioma is much rarer. The narrow pedicle in this case seems a point worthy of notice.—*The Birmingham Medical Review.*

Death under Nitrous Oxide.

THE following account of the death of a patient during the administration of nitrous oxide is taken from the report in the *New York Herald*:—Mrs. Flora Joseph, 22 years old, went to the office of Dr. Richard Woolf, a dentist, at No. 315, East Eighty-sixth Street, on October 7, to have four teeth extracted. Dr. Woolf did not remember having seen her before. She did not give her name, but explained that she came on the recommendation of Mrs. Steinhardt, of No. 146, East Eighty-ninth Street. The dentist did not ask her if she had taken anæsthetics on previous occasions, but proceeded to give her nitrous oxide gas. He extracted four teeth and then noticed that the woman had ceased to respire. He quickly called his assistant, Mrs. Faber, and together they loosened the woman's garments, depressed the upper part of her body to produce a rush of blood to the head, and sought in other ways to restore her, but without success. Then Dr. Woolf administered ammonia, and also pearls of amyl nitrite by inhalation, gave her hypodermic injections of whisky, chloride of cocaine, and also one-twentieth of a grain of strychnine, but none of these produced any effect. Dr. Woolf then called in Dr. Frank Churchill, who lives next door, and together they sought to restore the woman, but in vain. Dr. Woolf afterwards said he believed she died while he was extracting her teeth. Dr. Woolf immediately sought some person who could identify the woman. After going to Coroner O'Meagher, who lives at No. 427, East Eighty-fourth Street, and notifying him of the death, he sought Mrs. Steinhardt, but she was not at home. Then he remembered that her brother, Henry Joseph, lived at No. 418, East Eighty-second Street, and he went there, thinking that he might be able to identify the dead woman. Joseph was not at home, but other persons living in the apartment house to whom Dr. Woolf spoke, declared in answer to his description of the dead woman's appearance that she was Mrs. Joseph. They consented to view the body, and fully identified her. Dr. Woolf then suddenly recollected that he had treated Mrs. Joseph's teeth in 1893, and had given her gas, which produced no ill effects.—*Dental Record.*

A Case of Trigeminal Neuralgia treated by Operation.

THE *British Medical Journal* for August 17 contains a short report of a case of neuralgia of the right trigeminal nerve, of eight years' duration, treated with success by excision of the three divisions at the Gasserian ganglion, and partial destruction of the gland itself. The patient was a man, aged 45 years, on whom an operation was performed by Rogers, in 1892, for partial excision of the right inferior dental nerve. This operation gave complete relief for a time, but four months later the suffering became so intense that the patient threatened to commit suicide. In May, 1893, Rogers again operated, and on this occasion the Gasserian ganglion was exposed by Rose's method. The operation proved to be a very difficult one. The manual labour of the first part was very trying, as there was considerable and continuous oozing of blood, and in dealing with the ganglion the operator had to trust to the tactile sensation of his fingers, as he was unable to see the deep-seated parts of the wound. The substance of the ganglion, it is stated, was completely dismembered by a sharp hook and other instruments. Although no antiseptics were used on the wound or on the dressings, the recovery, though retarded, was very satisfactory. In August, 1894—about fifteen months after the operation—the patient had had no return of the pain. Eskridge, who examined the patient in September, 1893, found that he had gained several pounds in weight since the operation, and was quite well. The first division of the trigeminal nerve, he found, had not been completely divided. Taste was absent in the right anterior portion of the tongue, whilst smell was present and equal on the two sides.

Miscellanea.

Alterations in the Examination for the L.D.S.Eng.

We notice at a recent meeting of the Council of the Royal College of Surgeons, a report from the Board of Examiners in Dental Surgery was considered relating to the proposed modifications in the curriculum of professional study and in the Examinations for the Licence in Dental Surgery. As the Report has been referred to a special committee of the Council for consideration and report, we are not at present in a position to enter into the details of the scheme recommended by the examiners, beyond mentioning that they consider it is desirable to divide the examination into two parts, and that chemistry, physics, and metallurgy should be added to the other subjects. There can be little doubt that the College is taking a step in the right direction by examining candidates in chemistry and metallurgy, for although those subjects have been included in the curriculum, it is well known that students have not been in the habit of seriously working at them, knowing that they would not be called upon to show their knowledge under examination; and apart from the point of view of the advantage to the student in acquiring a good sound knowledge of these subjects, it is certainly desirable, as a general principle, that candidates should be examined as far as possible in all subjects of their curriculum.

With regard to the division of the examination into two parts, we think it will be generally agreed that some of the subjects, such as mechanical dentistry, chemistry, physics, metallurgy, &c., might well be got rid of in the first year of the student's attendance at the Dental and Medical School, especially in the case of a student who has previously received instruction in mechanical dentistry. We shall be interested to learn what the recommendations of the examiners are, when the special committee have reported.

Royal College of Surgeons.

An ordinary Council was held at the College on December 12, Mr. Christopher Heath, President, in the chair. The minutes of the last meeting were read and confirmed.

The following resolution was received from the Board of Examiners in Dental Surgery, and was referred to a committee of the Council for consideration and report:—

"The Board of Examiners in Dental Surgery have fully considered the letter from the National Dental Hospital as well as other questions arising out of it, and whilst they do not recommend that an examination in mechanical dentistry be instituted 'for dental students previous to their commencing their surgical training,' yet they are of opinion that the time has now come when it is desirable that the examination for the licence should be divided into two parts, and should include chemistry and physics and metallurgy. The importance of these subjects to the dental practitioner cannot be questioned, and it is generally felt that under the present system candidates do not obtain a proper knowledge of them, doubtless owing to the fact that there is no definite examination in chemistry and metallurgy."

A letter was read from Mr. Frank Marshall, Honorary Secretary of the Newcastle-on-Tyne Dental Hospital, applying for the recognition of that institution by the College for the purpose of teaching. The matter was referred to the Board of Examiners in Dental Surgery for consideration and report.

Royal College of Surgeons of England.

The following gentlemen, having passed the necessary examinations, have been admitted licentiates in dental surgery:—William Herbert Baker, Charing Cross and Dental Hospitals; Edwin Cecil Dare Bascombe, Middlesex and National Dental Hospitals; Frederick Charles Beaumont, Guy's Hospital; John James Breakell, Owens College, Royal Infirmary, and Victoria Dental Hospital, Manchester; Thomas Rubens Chambers, Guy's Hospital; Stanley William Randolph Colyer, Charing Cross and Dental Hospitals; William James Oliver Dawson, Guy's Hospital; Norman Denham, Guy's Hospital; Edward Claude Dimock, Guy's Hospital; John Wood Goddard, Guy's Hospital; Franz Edward Händel, Guy's Hospital; Stanley James Hankey, Charing Cross and Dental Hospitals; Edward Harrison, Charing Cross and Dental Hospitals; William John Humby, Middlesex and National Dental Hospitals; Benjamin Edgar James, Guy's Hospital; Harold Ernest Jepson, Charing Cross and Dental Hospitals; Frederick Warner Jones, Charing Cross and Dental Hospitals; Herbert King, Guy's Hospital; Tom Lees, Charing Cross and Dental Hospitals; James William Lewis, Guy's Hospital; Stephen Percy Ludbrook, Charing Cross and Dental Hospitals; George Ernest Macdonald, University College, Liverpool, Charing Cross and Dental Hospitals; Robert McKay, Middlesex and Dental Hospitals; Walter Marston, Middlesex and Dental Hospitals; Harold Dewe Matthews, Guy's Hospital; Joseph Lewin Payne, Guy's Hospital; Walter Herbert Pidgeon, Charing Cross and Dental Hospitals; Herbert John Relph, Middlesex and National Dental Hospitals; Harry Lennox Robertson, Mason College, Queen's and General Hospitals, and Birmingham Dental Hospitals; Samuel Frank Rose, Middlesex and Dental Hospitals; Arthur Buxton Ryle, Guy's Hospital; Clovis Leopold Seccombe, Middlesex and Dental Hospitals; George Ross Spencer, Charing Cross and Dental Hospitals; Arthur William Turton, Charing Cross and Dental Hospitals;

William MacGregor Veitch, University College, Royal Infirmary, and Dental Hospital of Liverpool; James Wood, Owens College, Royal Infirmary, and Victoria Dental Hospital, Manchester. Seventeen gentlemen were referred for six months.

Death from Chloroform given for a Dental Operation.

The *Dental Cosmos* contains an account of a death from chloroform given for a dental operation. The patient, a female, aged 58, had the anæsthetic administered for the removal of fourteen teeth. According to the report of the administrator, there was no objection to giving chloroform, the heart being apparently in good condition, no murmur, no intermission or irregularity of sound being present. The patient, to quote the words of the anæsthetist, " was placed in a rocking-chair tipped back as far as it would go, and chloroform given in an Esmarch inhaler. In from fifteen to twenty minutes she was unconscious, the teeth were extracted quickly, the patient tipped to one side for a short time to allow blood to run out of the mouth, then laid back in the chair. In about three minutes after the teeth were extracted we noticed that respiration was weaker and more shallow. We lifted her to the bed and lowered her head. The pupils of the eyes were dilated. After being placed on the bed, respiration stopped completely. Immediately, by pressing over the heart and making attempt to produce artificial respiration, dashing cold water on the face, and giving hypodermical injections of spirits of ammonia, we tried to restore life. Another physician was then called, and for an hour or more efforts were made to restore life by Sylvester's method of artificial respiration, together with hypodermic injections of atropia, ether, and brandy, rectal injections of hot coffee, &c., and inversion of the patient."

The Liverpool District Odontological Society.

Under this name a new Society has been formed, having for its main object the advancement of the science and practice of dentistry. As the title implies, the Society is to include not only Liverpool but also the surrounding district, and the fundamental qualification for membership is to be based on the bye-law of the British Dental Association dealing with advertising.

Necrosis following Crowning.

A case of extensive necrosis following crowning is recorded by Mr. H. W. Turner, in the *Transactions of the Students' Society of the Dental Hospital of London.* The patient, a girl aged 15, had a left upper central incisor crowned. About eight weeks later she returned with the remaining three incisors, and also the left canine loose, an abscess being present over each of these roots, and a large piece of necrosed bone could be felt. She gave the following history: "After leaving the hospital she was unwell (she being a strumous looking child), and was laid up. The next day she noticed a small abscess above the root of the tooth that had been pivoted; it was left, and got worse, and the pus passed upwards, infiltrating the tissues of the cheek. She was treated then for erysipelas. On her return to the hospital the four loose teeth and the crown were removed, as was also a large piece of necrosed bone extending from the canine tooth on the left to the lateral on the right side, and this was removed. The case progressed favourably under treatment. The pivoted root on being examined was found quite clean; but the apical foramen was rather large, and it is possible that some septic matter had been forced through it."

Messrs. Burroughs, Wellcome & Co.'s Preparations.

In a previous issue we referred to the great convenience of the tabloid preparations of Messrs. Burroughs, Wellcome & Co. Since then a further trial of the preparations has confirmed the opinion then expressed, namely, that they will be found extremely useful in practice, and that they are well worthy of the notice of the profession. At present the following drugs and preparations of use in dental practice can be obtained in the tabloid form: tannin, potassium permanganate, borax, cocaine, tropa-cocaine, hydro-napthol, hydrarg. perchlor., iodic hydrarg. We have also received a preparation known under the name of *Loretin.* This drug, in addition to possessing the antiseptic properties of iodoform, has the great advantage of being completely odourless. In practice it has proved to be reliable, and we are inclined to think will act as a very useful addition to our dental materia medica.

The Manipulation of Osteoplastics.

The following notes upon manipulating oxyphosphate are cited from *Items of Interest*:—Pour on a small glass plate enough fluid for your purpose. Put beside it enough cement powder for the filling. Draw the powder gradually into the fluid, and with a stiff spatula quickly rub the mixture into the consistency of cream, bearing hard all the while on the spatula, gradually manipulating it without any more powder. When the mass has become sufficiently plastic, apply it to the tooth cavity in the usual manner. It is necessary to emphasize the fact that no more powder must be added to the mass when it has been worked to the consistency of cream, and that continued manipulations, without the addition of any more powder, will gradually bring it to that degree of plasticity which is essential to a hard, unshrinkable, and bony mass.

A Solution of Cocaine-Morphine as a Local Anæsthetic.

According to Dr. Theophilus Parvin, Schleich's method of local anæsthesia by subcutaneous and parenchymatous injections of weak cocaine-morphine solutions, would appear to have a field of great usefulness before it. At a meeting of the County Medical Society, Philadelphia, he demonstrated the effect in his own person, by allowing an incision an inch in length to be made in his forearm, and to be stitched up, under its influence, in the presence of the Society. He declared it to be an absolutely painless procedure, and expressing his belief that at least 50 per cent. of the operations now performed under general anæsthesia will ultimately be done by this method, which he declared suitable even for major operations.

A Method of Abstracting and Cleansing the Teeth from Vulcanite Rubber.

The following method of freeing teeth from vulcanite rubber is given by Dr. Berhard in *Items of Interest*:—" First put the teeth in dry plaster on an iron spoon, covering the teeth with it. Place the spoon with its contents in the fire and let it remain till the plaster becomes red-hot, then withdraw the spoon from the fire, leaving it to cool, which occurs almost immediately. Then remove them from the plaster, and the teeth will be found to be perfectly clear and uninjured as when received from the manufactory. I have also used this method with vulcanite-mounted cases of two and three teeth. No trace, whatever, of any rubber adhering to the teeth. The teeth also become firmer by being annealed."

Fitting Crowns.

In the *International*, Dr. Bryan gives the following method of preparing an opaque black wax for articulating crowns. One part by bulk of lamp black and five parts white or yellow wax are melted together and rolled into sticks. The crown and root being ground to fit approximately, a small piece of this wax warmed is placed around the pin and the crown placed in position. The points requiring grinding will be very accurately indicated ; the amount to be removed being estimated by "sounding" the wax with a fine point.

Concentrated Solution of Phenol.

The Ohio Dental Journal remarks that, "It is well known that glycerine increases the solubility of phenol in water, but the strong solution is very caustic. Sulphoricinate of sodium is claimed to be of great value in aiding the solubility of this body, since it will maintain 40 per cent. of phenol in solution without destroying its antiseptic power, and yet without causticity. As its name implies, it is a product of castor oil."

Varnishing Cavities.

Dr. W. G. Browne, of Atlanta, in *Items of Interest*, advocates the use of a clear resin dissolved in chloroform to line cavities before filling. It will act as a non-conductor of thermal changes, an insulator against electrical influences, will prevent discoloration from oxidization of amalgam, will help to support frail walls to a limited degree, and is useful in starting gold.

Correspondence.

We do not hold ourselves responsible for the views expressed by our Correspondents.

Dental Advertising.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—In your report of the proceedings at the Annual Dinner of the Past and Present Students of the National Dental Hospital on November 22, you have not chosen to insert a very important part of the speech of Sir Dyce Duckworth. I find a great many of our members have not seen it, consequently with your permission I wish to draw attention to it. A report in greater fulness will be found in the December 2 number of the *British Journal of Dental Science*, page 1091. From this I extract the following paragraph :—

"I confess I see some ugly spots, and I have no doubt they are seen as fully by you. To mention one, I cannot doubt that the practice of advertising on the part of some members of your body, or people who have described themselves as belonging to your body, is much more rife than it was twenty-five years ago. I suppose it must be connected with the modern system of advertising which has come across the Atlantic to us, and which we have perhaps too freely adopted. One of the ugliest spots I can see is caused by those of your brethren who advertise in an unfair and undue and extravagant form." (Mark the expression "*your brethren.*") "I am sure that this must be a source of great annoyance and sorrow to many of you, and it is a matter which must come before our consideration in the General Medical Council. It is a very difficult matter for us to take hold of as a body, but we sympathise with you in the consequences you must suffer. I think it must be accounted for by the fact that a large number have been admitted into the ranks of dentists who are not fitted for the position, and not fit to hold the position among gentlemen educated and brought up as you are. These people, being little better than artisans, are not gentlemen, and we are therefore not surprised at the course they pursue. With regard to the question as to the powers of the Medical Council, I am sorry to say the powers granted to us by Parliament are sadly limited. As a judicial body we cannot go into the streets and bring in to judge people who are guilty of conduct which I consider most infamous. They must be brought before us. *All you have to do is to bring them up with sufficient evidence to prove that their conduct is unworthy of the profession to which they belong. If you do that I have little doubt we can mete out justice as they deserve, but in the meantime we cannot go out and bring them in ourselves as a body.*"

Will your readers kindly read this extract again and again? This was no mere after-dinner speech, as some have supposed. On seeing it in print I immediately wrote to Sir Dyce to ask him if the Council were really in earnest. He replied "The case is as I stated." This, then, is a direct invitation to us to bring before the Council cases of advertising by registered dentists. Shall we accept the invitation or reject it?

The right thing is for our Representative Board to present the cases on behalf of our British Dental Association. I have given notice to move that it shall do so at its next meeting. It would be a good thing at the present juncture if our 900 members would write to their various representatives and friends on the Board, and impress upon them the absolute necessity of accepting with thanks this invitation of Sir Dyce Duckworth, and the duty of bringing cases of gross dental advertising before the General Medical Council for judgment.

In addition to this I shall be glad to receive sheets of names, with qualification and address, as in the petition to the General Medical Council, or letters authorising me to add names to a request to the Representative Board to undertake this work without delay. I do not think the Board quite appreciates the feeling there is in the Association on this point, especially in the country. I was sent to the Board to carry out this measure of dental reform, and I trust those who sent me will support me until we have obtained it. The next meeting of the General Medical Council is in May, and there will be no time to lose. I append a list of names of those who have signed this requisition up to January 3, from which it will be observed Nottingham has gone solid for the reform. I have not sent out any wide general invitation before, but have received some names from other districts.

I pass by your reference to the action of the Midland Branch in sending a vote of thanks to the General Medical Council in appreciation of its action in our behalf. The General Medical Council accepted it, and placed it on its minutes. We are content.

I am Sir, yours, &c.,
HENRY BLANDY.

Registered Dentists who have signed the Requisition to the Representative Board.

Name.	Qualification.	Address.
Henry Blandy	L.D.S.Ed., I. and Glas.	Nottingham.
G. W. Bellaby	L.D.S.I.	"
Fred. Bellaby	M.R.C.S., L.D.S., L.S.A.	"
D. Stuart Hepburn	L.D.S.Eng.	"
H. E. Goddard	L.D.S., D.D.S.	"
Frank Vowles	L.D.S.I.	"
James Johnstone	L.D.S.Edin.	"
Henry W. Salmon		"
Francis E. Watson	L.D.S.Eng.	"
W. H. Chalcraft	L.D.S.Eng.	"
Francis Bellaby	L.D.S.Eng.	"

Name.	Qualification.	Address.
Geo. J. Cundy		Nottingham.
H. P. Taylor	L.D.S.Eng.	"
Urban E. Cave	L.D.S.Eng.	"
Wm. Goddard	L.D.S.Eng.	"
Frank M. F. Bellaby	L.D.S.Eng.	"
Elisha Renshaw	L.D.S.I.	Mansfield.
John E. Sutton	L.D.S.I.	Buxton.
W. Lee	L.D.S.I.	Northwich.
T. Collins Tippett	L.D.S.I.	Torquay.
C. S. Sinclair	L.D.S.Glas.	Glasgow.
A. P. Sinclair	L.D.S.Glas.	"
Peter Crombie	L.D.S.Edin.	Aberdeen.
Joseph C. Plunket	L.D.S.Edin.	London.
Seward W. Solman	L.D.S.Edin.	"
E. J. Gregory	L.D.S.I.	Cheltenham.
F. Gordon Allen	L.D.S.Edin.	"
W. Richards	L.D.S.I.	St. Austell.
Sydney Johnson	L.D.S.I.	Hove.

The General Medical Council and the Midland Branch.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—Your remarks concerning the vote of thanks to the General Medical Council passed at a recent meeting of the Midland Branch held at Bradford, appear to be based upon a misunderstanding.

The resolution was well discussed at the open meeting, which was a large one. It was fully explained to those present that a similar resolution had been before the Representative Board, and the representatives were invited to explain why it was that the Board rejected it. Several influential members took part in the discussion, including members of the Board as well as members of the Branch Council. When the resolution was put to the meeting it was passed *nem. con.* if not unanimously.

I do not bring forward these facts with any intention of disputing the applicability of your remarks to the way in which Association work is sometimes conducted, I have had too much experience to allow me to attempt such a thing. What I should like to impress upon you is that "Tooley Street" is not within the area of the Midland Branch, and that you should look further south to find the "Three Tailors" who you like so well to bring before our notice, and who you are evidently well acquainted with.

Yours faithfully,

THE CHAIRMAN OF THE BRADFORD MEETING.

York, January 6, 1896.

Books Received.

DIAGNOSIS OF TOOTHACHE AND NEURALGIA OF DENTAL ORIGIN, by Henry Sewill, M.R.C.S., L.D.S. *Bristol:* John Wright & Co., 1895.

"Shikwa-Igaku-Sodan," The Pharmaceutical Journal, Handelingen van het Nederlandsch Tandheelkundig Genootschap, The Dental Register, The Chemist and Druggist, The Birmingham Medical Review, The Medical Press and Circular, The Dublin Journal of Medical Science, Guy's Hospital Gazette, The British Journal of Dental Science, The Dental Cosmos, The Dental Record, The Transactions of the Odontological Society, The Students' Journal of the Liverpool Dental Hospital, Transactions of the Students' Society of the Dental Hospital of London, L'Odontologie et la Revue Internationale d'Odontologie, Items of Interest, The Ohio Dental Journal, The International Dental Journal, Vierteljahrsschrift für Zahnheilkunde, The Dominion Dental Journal, The Pennsylvania School Journal, Revue Odontologie, La Odontologia, Le Progrès Dentaire, The Dental Review, Deutsche Monatsschrift für Zahnheilkunde, The Dental Digest, Skandinaviska Tandäkareföreningens Tidskrift, Ein Historische Schets der Tandheelkunde, The Doncaster Gazette, A B C Chemists' Vest-Pocket Diary, 1896 (B. W. and Co.).

Letters and other Communications received from:—

Messrs. Burroughs, Wellcome & Co. (samples of drugs); T. R. Walkinshaw; W. J. Pidgeon; Henry Blandy; G. P. Murray; T. E. King; G. Alexander; F. R. Richardson; Norman H. Lean.

Appointments.

J. M. McMILLAN, L.R.C.S., L.R.C.P.Ed., L.D.S.Glas., to be Lecturer on Dental Surgery and Pathology to the Glasgow Dental Hospital.

JOHN G. S. ANGUS, L.D.S.Glas., to be House Surgeon to the Glasgow Dental Hospital.

NORMAN H. LEAN, to be Honorary Dental Surgeon to the Dental Hospital of Plymouth.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL
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BRITISH DENTAL ASSOCIATION
A
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No. 2. FEBRUARY 15, 1896. VOL. XVII.

A Scotch Sheriff.

THE recent prosecution against an unregistered man in Dundee is interesting, not with regard to the issues involved, but with regard to the lengthy and extraordinary judgment delivered by the learned Sheriff. The terms of that judgment are a revelation, at all events to Englishmen who have been accustomed to regard Scotchmen as a shrewd and fair-minded race of men. The judgments of the Supreme Court in Edinburgh are often cited and always listened to with respect by those who preside in the High Courts of Justice in the Strand. Looking at the terms of the decision in this prosecution, it becomes impossible to extend the same consideration to the lesser luminaries of the Scotch Bench. A more woeful misconception of the real circumstances of the case or of the law it would be difficult to conceive. The way in which the learned Sheriff endeavours to ascertain the reason for a statute in order to whittle down the punishment reveals a method of judicial decision which we should be surprised to find amongst those magistrates who are termed in England "the great unpaid." Obsolete arguments, spun out by jocosity, on monopolies and the ability of joiners and carpenters to do dental work, are exactly the sort of obstacles which were successfully overcome by those who drafted the Dentists Act and worked for it to become law. Very different indeed, in those days, was the treatment which these workers received at the hands of leading Scotch newspapers from that which the *Dundee Advertiser* indulges in. But to meet the worthy Sheriff on his own ground. His magnificent argument on monopolies may be met by the statement that after a committee of the House of Commons had thoroughly gone into the question it was considered desirable in the interests of the public that those who practised dentistry should undergo a certain course of training. This was the view taken by Parliament twenty years ago. It is just as much the duty of a sheriff, however well versed he may deem himself in social philosophy, to follow the opinion of Parliament thus statutorily expressed, as it is his duty to follow the reported cases of the superior courts. Taking, however, his own words, medicine (and he includes surgery) is protected by statute in order that people may be prevented from falling into the hands of quacks. Dentistry, he says, is a portion of surgery, and it would be interesting to know by what form of casuistry he would exclude it from the legal protection afforded to surgery. He might just as well exclude the treatment of a simple cold or bilious attack from the province of a medical man. If he had considered the matter more carefully, he would have seen that all physicians and surgeons can practise dentistry, the result of the legislation is that persons with special qualifications are enabled to practise dentistry only, and that therefore the latter is less of a monopoly, if he so pleases, than either medicine, surgery, or even veterinary surgery. There is no such concession to those who only pull out animals' teeth. And if it is necessary to protect animals, as was done by the Veterinary Act, *à fortiori* it is necessary to protect human beings. Just as the Sheriff argues about dentistry, so might we argue about the law. Counsel's fees are as fixed as the laws of the Medes and Persians, and we cannot see him save through a solicitor, who also has his fees fixed in many instances by the courts. Surely this is trade unionism with a vengeance. A doctor or dentist can fix his own fees. The Sheriff would at once deal sharply with anyone not duly qualified as a solicitor or counsel who, either from philanthropic or commercial motives, gave clients "cheap law," and such law might be excellent in every way. Really the position is too absurd to be belaboured. It is, however, necessary that we should be prepared to meet these objections when they are stated. Of all the pains that humanity suffers from there are few that can beat a raging toothache. There are none which are more easily aggravated by unskilled and untrained treatment. Perhaps the learned Sheriff has never suffered himself. If he should suffer in the future we will charitably hope that he will not submit himself to the mercies of advertising quacks.

The Presence of the Bacillius Coli in the Mouth.

In a paper read at a meeting of the Therapeutical Society in Paris, M. Gembert states that the bacillus coli has been found in the mouth of healthy persons. In sixty such cases the organism was found in twenty-seven. Thirty-six experiments were made to ascertain the chief locality in which the bacilli may be found, and in more than half the tonsil appeared to be the seat.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

Southern Counties Branch.

THIS Branch held a very successful meeting on Saturday, January 25, at the Cottage Hospital, Beckenham. Amongst those present were :—Dr. Joseph Walker, President, in the chair, Messrs. J. H. Redman, Stephen Hoole, J. F. Colyer, A. E. Baker, H. J. Kluht, J. H. Reinhardt, F. Canton and C. W. Croft Handley (London) ; J. H. Whatford, J. C. Foran and W. Barton (Eastbourne) ; H. Beadnell-Gill (Norwood) ; Morgan Hughes (Croydon) ; Martin Henry (Folkestone) ; Walter Harrison and F. V. Richardson (Brighton) ; G. O. Richards (Richmond) ; Leslie Maxwell (Hastings) ; H. O. Colyer (Ryde) ; James Colyer (Brixton) ; A. R. Colyer (Beckenham) ; B. J. Tasker (Guy's Hospital) and others.

Mr. A. E BAKER, L.R.C.P., M.R.C.S., L.D.S.Eng., read a paper on "A Case of Persistent Periostitis," which led to a good discussion.

Mr. G. OLIVER RICHARDS gave a demonstration, which was curtailed for want of time, on the method of preparing cavities for inlaying with porcelain. He showed the instruments used, and described the methods for preparing circular inlays and their adaptation to interstitial cavities, also Mr. Dall's method of cutting inlays from rods of porcelain, and Mr. Howard's plan of inserting dove-tailed inlays. The preparation of the cavity with the matrix and the various stages in the making of an inlay in a Downey furnace was demonstrated with the exception of the firing. Finished specimens of the various inlays were shown in mounted teeth, and Mr. Richards advocated the use of the Downey furnace for the making of inlays, as they could be so readily adapted to difficult and irregular cavities, and were the most natural in appearance.

The HON. SEC. read a letter he had received from the Hon. Sec. of the British Dental Association (this letter was published in the Journal for 1895, page 731), relating to the alteration of Bye-laws 15 and 18.

After some discussion Mr. J. F. COLYER proposed, and Mr. H. BEADNELL-GILL seconded, the following resolution, viz., "That this Branch is satisfied with the Bye-laws as they now stand." Carried *nem. com.*

Metropolitan Branch.

The Annual General Meeting was held on Jan. 30, at Leicester Square, the President (Mr. E. Lloyd-Williams) in the chair.

The minutes of the last meeting having been read and signed, the TREASURER read a Report which, upon the motion of Mr. ROBBINS, seconded by Mr. SCHELLING, was adopted.

The PRESIDENT announced that the Council nominated Mr. Spokes as President-elect of the Branch, Mr. Humby as Hon. Treasurer, and the Hon. Secretary was also nominated for re-election. It was proposed by Mr. C. WEST, seconded by Mr. P. GREETHAM, and carried that these appointments should be made.

Messrs. E. Lloyd-Williams, A. E. Baker, W. Coffin, W. H. Dolamore, L. Maitland, W. Rushton, and C. West were nominated for the four vacant seats on the Council, and Messrs. Rilot and Lewes were appointed scrutineers.

Mr. R. DENISON PEDLEY mentioned as a casual communication "A Case of Bridge Work." The history of the case was briefly as follows :—The patient, a lady age 35, complained of a swelling above the left upper canine. A year ago she had been attracted by the advertisements of a *Dental Company*, and finding a gold plate (which she had worn on and off for some years) very irksome, she was persuaded to have a piece of bridge work constructed which could not be removed. The canine was utilised on the left side, a stopping was removed, also the nerve, and within a month of the insertion of the bridge work she had at certain intervals (especially when exposed to colds or not feeling well) a swelling on the left side of the upper jaw which caused her much agony, spreading to the left eye, which was sometimes closed, and confining her to her room for a week at a time.

On examination it was found that a piece of bridge work extended on the left side of the upper jaw as far as the wisdom tooth, the molars were capped. Two flat-backed teeth with a bar took the place of the bicuspids, and this was anchored to the canine by a pin, which was cemented into the root.

On the right side the bridge work extended from the wisdom tooth to the first bicuspid, two molars being capped, and an anchorage had been secured to the first bicuspid by means of a piece of gold which was let into the masticating surface, and beneath which deep decay had taken place. On tapping the left upper canine it was found to be tender, a hard swelling was felt about its apex. The flat-backed teeth adjoining were both broken. This the patient said had happened within a fortnight of the insertion of the case; and although she had paid 35 guineas for the operation, on seeking to have it remedied, the *Company* disclaimed all responsibility and refused to do anything in the way of repair. By means of a Keber saw and one and a-half hours' work, the bar beyond the broken teeth was cut through, and a piece of gold was removed from the mouth carrying with it the pins of both teeth, a biting surface and a metal pin, half an inch long, which had been cemented into the canine. A small collection of putrid food was found attached to the under surface of the bar; and a careful examination of the root of the canine revealed the fact that above and around the pin decomposition had freely taken place.

While disclaiming any intention to condemn *all* fixed bridge work, and while asking that the patient's statement might be taken with due reserve, Mr. Pedley said it seemed evident that some obvious lessons might be learned from such a case. He handed the model round with the piece of gold removed, showing how excellent mechanical skill might be combined with a minimum of conscentious care, and a very rudimentary knowledge of dental pathology. The patient stated that the nerve was removed with "a hook" while it was alive, and it appeared that a small portion of this must have been left, while no attempt to render the pulp chamber aseptic had been made. The removal of *débris* from the canal was followed by a discharge of blood and pus. Free drainage was allowed for a month or two; teeth were replaced, anchored to the canine, and a portion of the gold bar still left in the mouth.

Messrs. L. Maitland, W. R. Humby, C. Schelling, C. Robbins, H. B. Gill took part in the discussion and Mr. PEDLEY briefly replied.

The SCRUTINEERS reported that Messrs. E. Lloyd-Williams, C. West, W. H. Dolamore, and A. E. Baker had received the larger number of votes, and these gentlemen were therefore declared elected to the Council.

A discussion then took place upon a communication received from the Representative Board inviting the opinion of the Branch as to Bye-laws 15 and 18 of the Association. Several motions and amendments were considered, including one "to go home," and another for an adjournment. Finally, the following, proposed by Mr. H. B. GILL and seconded by Mr. J. N. BAXTER, was carried:—"That in the opinion of the members of this branch some alteration is necessary in Bye-law 15, empowering each branch to send up two representatives to the Board, not necessarily being the President and Secretary of the branch for the time being."

Messrs. Gill, Maitland, Kluht, F. Canton, Pedley, Cunningham, C. West, Schelling, Humby, Reinhardt, and Baxter took part in the discussion.

The PRESIDENT then delivered his valedictory address, and afterwards inducted his successor, Mr. F. Canton into the chair.

VALEDICTORY ADDRESS.

GENTLEMEN,—Conventionality is perhaps the most exacting mistress. Custom demands that your retiring President should tear himself from office by hurling at those in front of him the bravest words he can summon for the occasion, irrespective of any consideration as to whether he has anything to say or not, or whether those condemned to listen to him make a feeble show of spurious attention, or relapse—as too often happens—into an apathetic or even somnolent condition, which would be amusing but for the fact that it is one more sad proof of the truism that man is born to suffer. If I am the slave of custom on this occasion, let me at once confess that I am an unwilling one; and though I should be loth to pose as possessed of a sickly modesty, yet I would in all sincerity have you know that at least you command my most profound pity, which I trust may be in evidence by the shortness of my remarks. I do not propose entering into the usual inquiry as to whether last session has been the most profitable of all which have come to this Branch, nor will I stop to comment on the inestimable value of this or that communication, and this or that discussion, nor—least of all—will I trouble you with the abstruse question as to whether the capacity of your President has been commensurate with the demands of the learned body which called him to office. All these things appear to have a certain interest for some, but I cannot honestly say that I am one of them. Let me rather use the opportunity of calling your attention to one or two points of larger interest and wider scope.

I much fear there is a spirit of restlessness abroad amongst the members of our Association—a spirit which makes mere "change" synonymous with "reform"; which measures the betterment of the dental profession only by the time which is occupied in its accomplishment. Just for the moment the delinquencies of the General Medical Council and the terrors of advertising appear to sway the minds of some of us. There can be no doubt of the evils of advertising, and no one would care to minimise them. But the question of advertising is not exactly one as between the registered practitioner and the ethical feeling of the British Dental Association, but between the practitioner and the Statute Book of Great Britain. We should not forget that a host of men were—rightly or wrongly—admitted to the Register *whilst* advertisers, and it is not an easy matter to eject them after the lapse of many years for no more urgent reason than that their ethical conduct is now precisely what it was at time of their admission. The law of this country is very jealous of what we call "existing rights," and in spite of the fact that those rights may not always claim the indulgence of latter-day ethics. If the resolution of the Medical Council on this subject be carefully studied, it will be found that they have not committed themselves to any sphere of action which might be construed as favouring the adoption of more severe methods than those which already obtain with regard to the Medical Register. Neither would any reasonable man expect that this should be so.

The recent after-dinner utterances of a prominent member of the

Council, who, in his desire to give some earnest of the undoubted interest he takes in dental matters, promised further inquiry into the matter of dental advertisers, have been exaggerated into a meaning which is not only alien to the words used, but which bolsters up a false hope doomed to disappointment. The General Medical Council have, I believe, the true interests of the dental profession at heart, but to try and harry them into precipitate procedure, beyond their scope and beyond their power, is in my humble opinion a policy not only futile, but mischievous. Let us rather show our appreciation of what they have already done by a calm assurance indicative of our absolute confidence in their desire to do what is right and best in our behalf. There is, however, one course of action which might with safety and propriety be kept well in view, and that is the possibility of inducing the Council at no distant date to adopt some form of resolution which might deter advertising *in the future.* The ethics of a profession may be forced upon the consideration of a man *before* he enters it, although it is extremely difficult to inculcate a binding rule upon him which was non-existent at his admission.

After all, gentlemen, we must not forget that dentistry is but in its infancy, and the toddling child is scarcely expected to enter for a race. The medical profession has had its vicissitudes to pass through ; we are gradually wending our way through ours. Let us remember that individual exertions are not without their due influence on the corporate body ; and that by striving to order our own professional conduct—each in his own small sphere—we shall be doing not a little to promote that well being which we all desire to attach to our profession as a whole.

There is only one other point which I desire to mention, and that is the representative body which is the executive of our Association. Now and again one hears the distant grumbling which denotes dissatisfaction, and occasionally there is a distinct charge of apathy—if not of incompetency—brought against the Representative Board. I have had the honour of a seat on that Board for a good many years, and I can honestly say that I have experienced nothing at their meetings but the strongest desire to promote the true interests of the Association. Divergencies of opinion there have been, and must be, as to what is best, safest, and most politic in the direction of affairs ; but underneath all is a strong current of urgent desire to carry forward the banner of dental reform.

In vacating the chair I am delighted to induct into the presidential office a gentleman who has worked hard for the Association, and has the goodwill of every member who listens to me. In welcoming Mr. Canton as our new President we are not unmindful of the fact that this year he is called upon also to preside over the Association, and I feel certain that we shall endeavour o sustain his hands, and do our utmost to make the Annual Meeting of 1896 a distinct and unqualified success.

The new PRESIDENT made a few brief remarks, and votes of thanks to the retiring President and to the other officers brought the business of the meeting to a close.

Scottish Branch.

A MEETING was held at the Dental Hospital, Chambers Street, Edinburgh (by kind permission of the Committee), on Saturday, February 1, at 3 p.m.

At a Council meeting held previously certain cases of alleged infringement and of cases in progress were considered, and the Hon. Sec. was requested to forward information to the Hon. Sec. of the Association. Mr. John Mathieson Macmillan, L.R.C.S. and P.Edin., L.F.P.S.Glas., L.D.S.Glas., was elected a member of the British Dental Association under Bye-law 2. Thereafter the Council considered a resolution sent to it by the Council of the Midland Branch as to instituting an examination in mechanical dentistry, and after discussion it was resolved "that this Council, while approving the suggestion, would defer any active action until after the publication of the report of the Inspector of the General Medical Council on the dental examinations."

After certain formal business the Council adjourned.

In the absence of the President, Mr. Bowman MacLeod, the chair at the meeting was occupied by Mr. Malcolm Macgregor, Vice-president.

Eight members of the British Dental Association were duly elected members of the Branch, and Mr. J. M. Macmillan was proposed and seconded for membership.

The circular as to the alteration of certain bye-laws issued by the Representative Board was considered, and after discussion, on the motion of Mr. WILSON (Edinburgh), seconded by Mr. CAMPBELL (Dundee), the meeting re-affirmed the resolution passed at the annual meeting at Dollar, in June, 1895. This resolution proposed that the *ex-officio* members of the Branch should cease to be members of the Representative Board, and that each Branch have power to send two representatives annually.

The resolution which Mr. Blandy proposes to move at the next meeting of the Representative Board was discussed, and on the motion of Mr. TAYLOR (Glasgow), seconded by Mr. WILSON (Glasgow), it was resolved, *nem. con.*, that "this meeting does not approve of Mr. Blandy's motion."

The meeting then adjourned to the conservation room of the Hospital, and the members were greatly interested in the following demonstrations.

(1) Mr. J. S. DURWARD L.D.S.Edin., inserted an all-porcelain crown

on a central incisor, by Downie's method, using his furnace. Nitrous oxide was administered for the removal of the nerve, and the crown was fitted and completed at the one sitting.

(2) Mr. H. B. EZARD, L.D.S.Edin., inserted a soft gold filling in the crown of a right lower molar. Tape gold was used, partially rolled into cylinders, leaving a free end. These cylinders were inserted into the cavity with Bing's hand pluggers, and the free ends worked in and the plug burnished down. No attempt was made to exclude the moisture of the mouth.

(3) Mr. F. TURNBULL, L.R.C.S., L.R.C.P., L.D.S.Edin., gave a demonstration of the sulphuric acid treatment of pulpless canals. The patient was a male, aged 23. The left upper lateral incisor had a large abscess at the apex, and the upper lip and cheek on that side were very much swollen and œdematous. The patient had suffered much pain for several days, especially on the evening previous to treatment. The abscess was lanced and some pus evacuated. The rubber dam was then applied and the cavity prepared. A bristle was passed up to the apex of the canal in order to remove any *débris*. A drop or two of (fuming) H_2SO_4 and H_2O (1 in 40) was introduced into the canal on a bristle with a few threads of cotton wool on it; this was then neutralised with a saturated solution of bicarbonate of soda in water. The usual effervescence took place, thus syringing out the canal, as it were, in addition to the purifying action of the sulphuric acid. This process was repeated in this case. The canal was dried out with absolute alcohol and hot air. It was then slightly moistened with cajeput oil, and a solution of chloro-percha and iodoform was worked up to the apex, and a gutta-percha nerve canal point introduced. The cavity was filled with Weston cement.

[*N.B.*—The patient was seen the following Tuesday, and had had no further pain or discomfort. The swelling of the cheek and lip had also subsided.]

(4) Mr. SEWELL SIMMONS, L.D.S.Edin., filled an upper canine tooth with gold, using the electric mallet and Morgan and Hastings No. 30 foil. The cavity was a mesial one, and the lateral having been previously cut off for the subsequent adjustment of a Logan crown upon the root, free play was allowed for the condensation of the somewhat heavy foil, a very hard and clean filling being the result, taking an even surface with well finished edges. The Logan crown was subsequently cemented into the lateral root, having previously been built out to contour against the central, by fusing on additional porcelain with a Downe's furnace.

(5) Mr. ANDREW WILSON, L.D.S.Edin., showed a most interesting series of geminated teeth arranged on cards.

Cordial votes of thanks were afterwards given to those members who had so kindly undertaken to give demonstrations. There was a large attendance of members and friends, upwards of fifty being present, thus demonstrating their appreciation of this, the first Branch demonstration meeting in Scotland.

Upwards of thirty members afterwards sat down to high tea at the Grand Restaurant, under the vice-presidency of Mr. Malcolm Macgregor.

The next meeting will be held in Glasgow on the last Thursday or Friday in March.

Western Counties Branch.

A SPECIAL meeting of the Council will be held at the "York House" Hotel, Bath, on Saturday, February 22, at 3 p.m.

By order of the Executive Committee a special meeting of the Branch will be held at the "York House" Hotel, Bath, on Saturday, February 22, at 4 p.m.

The purpose of this meeting is to consider and resolve upon the communication received from the Representative Board, respecting the question of alteration of the bye-laws 15 and 18 of the British Dental Association. Members are requested to refer to the December, 1895, issue of the Journal for the particulars of the letter sent to the several branches. It is hoped that an effort will be made by the members to attend, so that a representative meeting may be held.

6, *Southernhay*,
Exeter.

T. ARTHUR GOARD.
Hon. Sec.

Fifth Report of the Committee appointed by the Representative Board of the British Dental Association, to conduct the Collective Investigation as to the Condition of the Teeth of School Children.

SINCE the issue of their last report the Committee have received returns from six schools in which a little over 700 children's teeth were examined, thus making a total of 11,422 since the commencement of the investigation. The schools examined, were, with one exception, of the usual character, and comprise the following: St. Paul's Orphanage, Princess Alice Orphanage, and St. Mary's Convent, all in or near Birmingham, examined by Mr. J. W. Turner; the Kensington and Chelsea District School at Banstead, examined by Mr. Maitland; Rishworth Grammar School, a local Charity School, examined by Mr. Arthur and Mr. Alfred Cocker, and Haileybury College, the well-known high class public school, partially examined by Mr. Sidney Spokes; to all of whom the thanks of the Association should be accorded.

As the ages of these children vary from 4 to 17 years, and as the total number in each school is so small, no great value and no new fact of importance can be derived from a publication of the detailed tables giving the general results in each of these schools. As the last report only contained the results of one school of 198 children, these have been added to the general table prepared for this report. The actual figures in this return have been reduced to percentages which are embodied in the following table on the plan which has proved so useful in former years, and which facilitates comparison with the results of previous returns, by arranging them in triennial age groups, and tabulated according to the standard of measurement as to quality or condition of the denture as set forth in our Second Report.

TABLE SHOWING THE RELATIVE RATIO PER 100 CHILDREN HAVING SOUND, DEFECTIVE TEMPORARY, AND DEFECTIVE PERMANENT TEETH (CLASSIFIED QUATERNARILY), ARRANGED IN TRIENNIAL AGE GROUPS, IN 903 CHILDREN.

At St. Paul's Orphanage, Princess Alice Orphanage, and St. Mary's Convent, Birmingham; Kensington and Chelsea District School; Banstead; Rishworth Grammar School; Nazareth School, Kensington; and Haileybury College.

AGE GROUP.	iv.-vi.		vii.-ix.		x.-xii.		xiii.-xv.		xvi.-xviii.		QUALITY
NO. EXAMINED.	47		179		332		320		25		903
Sound (no decay)	7	14·9	19	10·6	33	9·9	23	7·2	...	...	Good.
Defective Temporary: (Teeth only)	35	74·5	68	37·9	43	13·0	5	1·6	...	...	Uncertain.
Defective Permanent: ...											
1 to 4 ...	5	10·6	91	50·9	225	67·8	178	55·6	10	40	Fair.
5 to 8 ...	...	...	1	0·6	27	8·1	78	24·4	5	20	Bad.
9 to + ...	...	...	...	...	4	1·2	36	11·2	10	40	Very bad.
TOTAL...	47	100	179	100	332	100	320	100	25	100	903

On comparison with those in a similar table in the Third Report, embracing nearly twice as many examinations, it will be seen that the three middle columns harmonise with previous results in a general way, though there are not so many good or sound dentures and rather more cases of very bad dentures, *i.e.*, with 9 or more than defective permanent teeth. The inevitable increase of decay of the teeth as age advances, is again clearly shown, although the numbers included in the first and fifth columns are too small to give reliable percentage results. An analysis of the special tables show that this is mainly due to the inclusion of the Rishworth Grammar School and Haileybury College. The latter being a high-class school, bears out the results to which we called attention in the Third Report, that the teeth of the rich children seem much more prone to decay than the teeth of the poor charity school children. In the whole 103 examined so far, only two had dentures free from decay or loss of teeth. Putting aside one of 12 and eight between 16 and 17 years, there were ninety-four between 13 and 15 years of age. Of these, two had *sound*, thirty-eight *fair*, thirty-five *bad*, and nineteen had *very bad* dentures. Not counting what seems an unusually large number of fractured front teeth from accidental causes; and all the eight older boys were classified as *very bad*. The real condition was not so bad as these figures indicate, for a large number of carious teeth had been filled, and thirteen boys had *artificially sound* dentures, *i.e.*, required no treatment, all decay having been eradicated. A large number of teeth still require filling, but it is interesting to know that this is being done as rapidly as circumstances and parental intelligence will permit, thanks to the new dental regulations introduced by the Headmaster in conjunction with the resident Medical Officer.

Much too rarely are the medical reports in the new Case Books filled in, but in the case of one school the medical report was very full and complete, and accompanied by an analysis of the water. That analysis concludes as follows: "The water was acid to litmus paper, the acidity amounting to 0·28 grains per gallon, if estimated as sulphuric acid. The water contains lead, no doubt taken up by the acid present, the amount being 0·09 grains per gallon." The teeth of these poor charity school children taken in the two triennial periods, X. to XII. and XIII. to XV., are quite as bad as the rich class, and decidedly worse than the average of their own class. The numbers are too small, it must be admitted, to make the percentages reliable; but, notwithstanding, one cannot dissociate the fact from the certified acidity of the water supply. Similar supplies exist, no doubt, in other schools, therefore it would be interesting to acquire further statistics in this direction. The attention of examiners is therefore called to the importance of the character of the water supply, acidity, hardness, &c., as a part of the medical report in the case books.

Greater care should be taken in filling in the ages, as many charts have to be put aside as useless from the impossibility of classifying them. The examination of boys' teeth should never be in girls' case books or *vice versa*, as it entails needless work in re-copying.

The Committee regret that their appeals for help and support in carrying on what must be admitted is a useful work, do not meet with a more ready and more generous response from a larger number of the members of the Association.

H. Baldwin.
Geo. Cunningham.
W. B. Paterson.
R. Denison Pedley.
Sidney Spokes.

Original Communications.

Amalgams in Every-Day Practice.*

By C. ROBBINS, L.D.S.Eng.

Mr. President and Gentlemen,—I am fully alive to the fact that in selecting the subject of amalgams as they relate to every-day practice, I am treading on well-worn ground, and perhaps little that is new or original can be said about the matter; but I take it that the time of this meeting will not be wasted if the few imperfect words I have to say may lead to a general expression of opinion in connection with so vital and important a question. In this age of evolution theories, we are entitled to say that the reason why amalgam is used so universally at the present day, and has become such a potent factor in the salvation of tooth structure is, that in this material we have "a survival of the fittest." In its struggle for life, it has had heaped upon it all the invective possible by a certain body of men—skilful though they be, but who, whether consciously or not, are hobby riders. Let me be distinctly understood, I do not imply want of pure motives on the part of these gentlemen, nor do I stand as a judge in this matter, but am ready to confess that when they used the strongest language they were honestly in earnest, but they saw things through their own spectacles. It is very satisfactory to find that many of these men have altered their views, and now employ in their own practices the material they so strongly denounced. At the present time, to an honourable man, one who wishes to do the very best for each individual patient, the use of amalgam is an *absolute necessity*. I am not combating the point in opposition to the use of gold, that would be folly. Gold has been, and is, the royal material to use, when circumstances demand it, but to use it to the exclusion of all other materials, each of which has its own specific value, is to condemn the great majority of humanity to pain, disappointment, and irrevocable loss. There is and always will be room in our special branch of surgery for these "extra specialists," who may be left to perform their own laborious feats of building up monuments of gold to the exclusion of every other material, but their patients will have to be well and carefully selected, and there will be still room for the all-round man to do his duty to suffering humanity.

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* Read at the Annual General Meeting, held at Edinburgh in August, 1895.

One of the advantages amalgam may justly claim over gold is, that it can be used successfully in teeth of feeble structure, in the mouths of patients whose reserve store of health and endurance would be totally inadequate for the long operations necessary with gold (cases in which gold would prove to be a signal failure), and yet at the same time it will run the noble metal closely for first place in certain cavities where gold *could* and *would* be endured. I believe honestly that often the failure of amalgam is due to the fact that it has not been *sufficiently respected*, that too little time is given to the preparation of cavities, insufficient care taken in packing, and frequently no care exercised in the matter of after polishing. The time has come when the students should be as carefully taught in the matter of amalgam as in gold operations. Is this so? Is there not still floating about, although not so definitely expressed as formerly, the unwritten and the unspoken slur on amalgam and amalgam workers? Would it not be possible to incorporate more of the special practical knowledge of the material we are speaking of into the curriculum of the student, not as an addition to the long list of requirements, but in the place of some less needed lectures in metallurgy that have little or no bearing upon the student's future career? Surely it is not asking too much that the student should know something of the component parts of the best known and most frequently used amalgam alloys: that he should be able, if necessary, to make his own alloy, and as able to test or analyse those mixtures that come to him with high sounding names and titles, that are often misleading and incorrect. Again, are we teaching our younger brethren that if success is to be expected, every stage of the work in an amalgam filling must be as accurately defined, and as carefully accomplished as for gold? The very ease with which this material may be inserted, has, I admit, a tendency in the wrong direction; it becomes then more than ever necessary that we should impart a little moral fibre and tone to our students in the matter of such work, and not pass over the slightest defect simply because "it is only an amalgam!" Again, have we not a duty still remaining with regard to the enlightenment of our patients; and last, but not least, have we not the privilege of clearing the minds of some of our medical colleagues, whose conduct and expressions occasionally imply that the old absurd notions with reference to the harmfulness of amalgams in the mouth are not dead yet. In case it should be considered that I am tilting at a windmill in this matter, allow me to cite briefly a circumstance that has come under my notice since this paper was commenced. In the ordinary way I placed a small amalgam in the second temporary lower molar of a child aged about five years, another appointment was made to do a little more work in the same mouth a week later, but this appointment was put off for another week because the child was very poorly, and arrangements were made to see her when she was better. A few days after I received a letter from the mother to say that it had been necessary to call in a medical man, and the mother continues: "my little girl's gums are now in a dreadful state, my doctor thinks this morning that some poisoning is the cause; I told him that she had a tooth stopped with cement, he said that mercury was used with that, and very likely she had swallowed some. I am in a dreadful state about it, what do you think?" In reply I stated "that such a theory was not only absurd, but altogether impossible." The mother desired me to call and see the child; I did so, expecting to find that perhaps a pulp had died, instead of which there were evidences of general ulcerative stomatitis, with an entire absence of any dental causes. Having put the mother's mind at rest as to mercurial poisoning, I left the case to be treated by the medical adviser. In this age of pace and high pressure, it is very difficult for a man in full practice to carry out original research in this or in any other department of our work. It is all the more praiseworthy when such an eminent man as our late President, Mr. Charles Tomes, takes up the matter of amalgams, and gives freely to his professional brethren the result of yet another series of experiments in order to determine the cause and prevention of the principal genuine fault in this material —namely, that of shrinkage. In his interesting paper, read before the Odontological Society, some stress is laid upon the need of a rapid-setting amalgam. Mr. Tomes' experiments seemed to show that where the process of setting is slow, there is proportionately more shrinkage, as evidenced by the "*ink test*." The disquieting results of most of the experiments described, may, I think, be a little modified by the fact that the circumstances are in the mouth somewhat different; circular holes drilled in ivory do not entirely represent the ordinary conditions in the cavity of decay. Again gutta-percha fillings do not stand the ink test, and yet we all know how this useful material will, in certain positions, perfectly preserve the tooth for many years.

There is something very coy and contradictory about amalgams (hence the need of more original research), as is evidenced by the behaviour of that very slow setting amalgam—Sullivan's. For some time I have had my faith very much shaken in this material, and use it now only to a very slight extent.

The different results one gets in the same mouth, with work put in under the same conditions is, to say the least, disappointing; but this disappointment, at least, as far as I have been able to judge, has never been from shrinkage. I saw a mouth the other day in which one Sullivan was looking as black and healthy as a nigger can, that had been in nine years; yet in the same mouth another Sullivan, a dirty brown, and suffering from extensive surface disintegration, that had been placed just as carefully, but only two or three years ago. The fact has, I think, been now definitely established, viz., that Sullivan should never be used on or below the gum margin.

The main fault of Sullivan, then, is not that of shrinkage, and yet *it is a slow setter.* To prevent shrinkage, Mr. Tomes tried all sorts of experiments, and the one that seemed to yield the best result, was that in which he re-heated a portion of old amalgam, and combining it with a small quantity of fresh mix, packed rapidly into the cavity, and burnished immediately; this stood the ink test. I have carefully tried this method in the mouth, and have mostly failed, owing to the rapidity with which it set. There is room here for further experimentation, and I think it is the privilege of every member of this valuable Association to give the results of his efforts to his brethren, not keeping the smallest matter back on the score of its being insignificant—the success of our final effort may hinge on a very small point indeed. Mr. Tomes succeeded in getting watertight fillings by making the greater part of osteoplastic material, and coating that with a thickness of amalgam, "using the amalgam only as a protective agent to keep the fluids of the mouth from having access to the plastic filling."

Here we are on more workable ground, and as the result of *freely* lining cavities for some years, I seem to have attained results that were to me impossible before. When using osteoplastic as a lining, it is as well to pack the amalgam well into this material whilst it is soft; by this means one lessens the chance of shrinkage, gives a comforting foundation, and prevents a great deal of staining; the difficulty of fouling the edge of the cavity with osteoplastic can be easily got over by careful manipulation.

Another useful combination, and one not mentioned by Mr. Tomes in his experiments, is that in which a small quantity of osteoplastic is thoroughly incorporated with a fresh mix of amalgam, and used in cavities where there is little holding power.

For this work a very fine grain of alloy is preferable, such as flint edge. On first using this combination the results seemed favourable, but after a time the surface was found to be rough and disappointing. Talking the matter over with Mr. E. Lloyd-Williams, who has had a considerable experience with this method, I found I had been making the usual mistake of using too large a proportion of osteo; by reducing this to one third, with two thirds of amalgam, one obtains a combination just a little more difficult to work, but one that answers its purpose much better. It is possible to coat this mixture with a layer of amalgam proper, first smearing the surface with a very little soft mix, and then packing upon it the final layer of metal. Mr. Tomes laid some stress upon the desirability of burnishing any amalgam that would set sufficiently rapidly at the time of insertion, and there is no doubt about the desirability of the filling leaving our hands as smooth and as hard as it is possible to get it. To procure this surface, one that can be to an extent burnished at the time, even when using an ordinary amalgam, I firmly believe in a method that is a slight modification of one mentioned by Ottolengui, and one I have tested for about four years. This gentleman, Ottolengui, suggests placing thin gold foil, in small pieces, upon the surface of an amalgam, and with warm instruments burnishing the gold *into* the material. On carefully trying this method, I found that the amalgam had to be very soft, or else the gold would leave the surface and cling to the burnisher. With an amalgam, the upper surface of which was packed as dry as one desires, this plan did not succeed; but on going over the surface with a large sized, loosely rolled gold cylinder, such as No. 1, Wolrab, I was surprised at the way in which the mercury was absorbed, and *the edges of the cavity cleared and defined*, so that one could be more sure of avoiding anything like a thin overlap of material at the edges, and at the same time could readily absorb the excess of mercury on the surface. Again burnishing down thoroughly, another cylinder is used, until one leaves the filling with a surface much harder and more condensed than could otherwise be obtained.

The argument against this method might be that having extracted a portion of the mercury, one has made the surface somewhat porous. This is entirely got over by building first of all in excess, and burnishing down well after each gold cylinder has been used up.

Since speaking of this method at the time Mr. Tomes' paper was discussed, I received from Mr. Dall, of Glasgow, a sample of large loosely rolled silver cylinders, which he had specially made, with a request that I should try them; he had originally used gold cylinders in the way I had described, but had given them up in favour of the silver cylinders. I was pleased with the result, had some made, and am now using them freely; they have the advantage of being more economical, but I do not think them quite equal to gold, being less tough to handle, with a tendency to crumble; but possibly this may be obviated by keeping them, when not in use, more thoroughly air-tight.

Another most useful combination is that of amalgam and gold, where for the sake of appearance, it is desirable to keep the amalgam out of sight. Mr. Humby has so ably demonstrated this method at our meetings from time to time, that little need be said, save that I think the use of mat gold directly on the fresh amalgam seems to give a better start before pellets are added. The much talked of "galvanic action" so dreaded by those who have been too timid to try for themselves, is a condition I have yet to see. There are those who on this account would be afraid to restore a faulty gold that has failed (say, at the gum margin, whilst the rest of the filling has stood well), with this useful material; but would remove the entire filling, subject the patient to another sitting of two or three hours and begin *de novo*. Personally, I should not hesitate, in such a position, to restore with amalgam, provided of course, that it was not in the front teeth, and shall continue to do so until I see harm forthcoming, allowing the other operator for the time being the conviction that he is the more thorough worker. And now as to after polishing. However well burnished an amalgam may be when done at the initial sitting, I do not think the polish is to be compared with the surface one can obtain after the filling has set. Many amalgams fail for the want of this after polishing, especially in those cases where there has been an unintentional bevel or overlap. My conviction is that the seemingly leaky edge is often nothing more than the contraction of this frill of metal, and in such cases an after polish puts the matter right with our patients and ourselves. Much time and labour is spent in polishing a gold filling, not always at the same sitting, for both patient and operator are too fagged out; why then should our patients not be educated to give another short sitting for polishing purposes? In cases where difficulties are thrown in the way, I make it a practice now to spend the rest of the sitting, after examining the mouth at the periodical visit—in a general polish up. And now, gentlemen, I will not further trespass upon your time and patience, there are many other matters in connection with this subject that would repay any amount of time spent in their discussion, but your Secretary has in his wisdom seen fit to subject papers read before you, not to an "ink test" but to a "time test," and for this good reason, that having got together such a body of practical men, it would be imprudent to let one member air his fads or his views, to the limitation of a general discussion. It is upon the thoroughness of the discussion that should follow that we must look for any real addition of knowledge, and I have faith to believe that one result of this meeting will be to give courage to those men who are using amalgam with some sort of apology, instead of looking upon it as one of the most humane and at the same time important factors in every day practice. It has been said that amalgam is degrading, and lowers the tone and aspiration of the man who uses it; fortunately for the good of suffering humanity, those who assert this are becoming fewer every day.

Amalgam is not degrading, neither is its use confined to feeble operators; it is used, and rightly so, by all who have the best interests of their patients at heart. It is saving more teeth in the present day than even gold, and will continue to rise in the scale of usefulness in proportion to the thought, care and skill expended on its manipulation.

Protection of Cement Fillings.

According to Dr. Darby, rosin and wax, melted on a spatula and poured on the surface of cement fillings, does not crumble off as does wax or paraffin. Hardened under rosin and wax for a few days, cement fillings will take a finish almost like polished ivory.

"Solila Gold" (Dr. de Trey, Basle) as a Filling Material.

By EDWARD A. MANTON, L.D.S., R.C.S.Eng.

After nearly three months' continuous use of Dr. de Trey's gold, I find myself entirely satisfied with it; the test of time however, I have not yet been able to observe.

Mr. J. Charters Birch (Leeds) is, I think, in error in saying that the gold is not yet on the market, as since the Dental Congress at Boulogne-sur-mer on August 5th, 6th, 7th, 1895, where I first saw the gold, I have had it regularly supplied to me by Messrs. P. A. Koelliker et Cie, 45, Rue de la République, Lyon, Rhône, France, who will, I am sure, be pleased to supply any quantity.

Special instruments have been devised by Dr. de Trey for working this gold, plain and serrated for hand pressure, and the automatic mallet, which, by the way, is to be preferred to the electric mallet for this gold, though I believe Dr. de Trey considers hand malleting better than either of the above three methods.

The two forms as described by Mr. Birch are still further divided into two classes—thick and thin; practically I find the most convenient forms to be No. 2, *i.e.*, thin, and without the "trame" or woof, and No. 4, *i.e.*, thin, with the "trame"—by "trame" I mean the thin sheet of gold between the amadou-looking outer sheets.

Mr. Birch in his demonstration at the recent Annual Meeting has so clearly explained the advantages of this gold, *i.e.*, the quickness of working, density, &c., that I can hardly add anything to his description.

In starting cavities I find that the No. 2 is preferable; a piece should be taken the size of the floor of the cavity or a little larger, and on a piece of wash leather rolled into a ball, and then driven into place, and spread as much as possible with one of the instruments of the set.

In working on crown cavities, the largest instrument that the cavity will take should be used. The gold should be annealed *on both sides*, on account of its thickness, to a dull redness, and *not more*, and upon no account should the gold be allowed to come in contact with the flame or wick of the lamp. Owing to its extremely crystalline form, it is absolutely necessary to keep it free from dust, &c. This gold also combines, I find, very easily with tin. Care should be used to avoid excess, or considerable waste occurs, as a piece the size of an ordinary cylinder, I believe, is of about six times the same volume.

Solila gold requires no retaining pits for starting a filling, the ordinary undercuts are ample—in fact, the cavity should be prepared in the same manner as for an amalgam filling; that will explain quite, I think, what preparation is needed. It will also adhere to any roughened surface on a noble metal, and Dr. de Trey, jun., tells me that he and his father use it regularly for bridge-work, and have even attached pin teeth to a full gold upper denture by means of it.

Two other points to be noticed are, that the scissors used for cutting the gold must be exceedingly sharp to avoid injuring the crystals in dividing it, and for handling it while cutting into shape, but not for conveyance to the mouth, the special broad-pointed tweezers that Dr. de Trey recommends should be employed. For trial purposes these special instruments are not necessary; any suitable shaped smooth-ended pluggers or burnishers will do, though after the experimental stage I strongly recommend the employment of the proper instruments, the full set consisting of fourteen.

The gold is a little more expensive than most others, costing in France 26 francs the $\frac{1}{8}$ ounce, and the instruments are sold at 6 francs 50 centimes each.

One last word—*the rubber dam is imperatively demanded in working this gold.*

Rhizodontrophy.

By JAMES F. RYMER, M.R.C.S., L.D.S., D.D.S.Univ. Pa.

"Rhizodontrophy" is a long word; it is, as many know, derived from the Greek words, *rhiza*, a root, and *odous*, or *odontos*, a tooth, by which I think is meant the crown of a tooth; and the affix "trophy" I translate as meaning trepanning; therefore in plain English the term rhizodontrophy means drilling a hole into the pulp canal between the root and crown.

I will commence by asking two questions: firstly, is rhizdontrophy a scientific operation? secondly, when is the operation indicated?

The first I will answer in two or three words. I consider rhizodontrophy a thoroughly scientific operation, and one of the most useful that we have in dentistry.

I will now deal with the second question, when is the operation indicated? (*a*) Acute pulpitis, or inflammation of the pulp, the symptoms being intense pain and generally acute periostitis, the patient can hardly bear the tooth touched, and certainly no amount of drilling, such as removing a filling. The causes of acute pulpitis are: (1) Traumatic: a blow on the tooth frequently causes constriction of the vessels at the apex of the tooth, and so inflammation of the pulp; (2) fillings, especially metals, placed too near the pulp cavity, setting up irritation and speedily acute inflammation, &c.

Now when patients present themselves with the above history, I maintain that the only humane operation is "rhizodontrophy," as if done properly it causes little or no pain. Take the finest drill possible, taking care to sharpen well each time it is used; hold the tooth firmly with the fingers, rotate the drill quickly and press fairly hard—this prevents any vibration. In a day or so all inflammation is at an end, the tooth can be drilled into and the pulp cavity cleared out, and the tooth filled in the usual manner, including the "rhizo" hole.

(*b*) *Chronic cases*, viz., teeth, especially the molar series, which have been filled, often for many years, suddenly develop acute abscesses. These cases I have traced chiefly to middle-aged women, and the spring and autumn is the most common time. Again, at the first visit, I say, "rhizo" is the rational treatment; later on, the old filling may be drilled out; but for my own part, in teeth of the above description I prefer to leave the vent permanently, as these teeth are mostly doomed to loosen and come out, and drilling into the old fillings often hastens their end; but in younger people the after treatment is the same as in acute pulpitis.

(*c*) *Chronic abscessed teeth*, discharging pus through a fistula opposite the apical foramen. I have now resorted, in two or three cases to "rhizo" in the treatment of the above, which is applicable to the incisors and canines; in these cases it is not for the relief of pain, but for curing the abscess. I fill up the cavity with a temporary filling, such as Poulson's cement or gutta-percha. I have had made a hypodermic needle, platinum and iridium (which is very hard and flexible); this exactly fits into the hole drilled into the neck of the tooth. I now fill my syringe with warm tincture of iodine and water (about the colour of brown sherry), and forcibly inject this through the sinus; this requires repeating on several subsequent visits. The action of the iodine lotion is the same as in general surgery, viz., it sets up inflammation along the sinus, which then begins to granulate up, and finally heals quite up; it also disinfects all the parts with which it comes in contact. Without performing rhizodòntrophy in these cases, it is almost impossible to get any syringe point to fit into a jagged cavity, and so it is ten to one against the fluid finding its way through the fine sinus. The tooth can afterwards be filled in the usual way; and so far I have been successful as regards the return of any abscess. Please do not think that I am putting this latter treatment forward as anything novel, but it may be to some.

Legal Intelligence.

Prosecution under the Dentists Act.*

In Dundee Sheriff Court, on January 17, A. Davie, South Lindsay Street, was charged with offences against the Dentistry Acts, the complainer being the Hon. Secretary of the British Dental Association. The complaint, which was laid under the Summary Jurisdiction (Scotland) Acts, 1864 and 1881, and the Criminal Procedure (Scotland) Act 1887, set forth that A. Davie, 3, South Lindsay Street, Dundee, not being a person registered under the Dentists Act, 1878, and not being a legally qualified medical practitioner registered under the Medical Act, 1886, did at the times and places mentioned in the complaint represent himself as a person registered under the said Dentists Act, or that he was a person specially qualified to practise dentistry, and was a legally qualified medical practitioner, registered under the said Medical Act, or as possessing one or more of these characters and qualifications, by having, during the last five months of 1895, had attached to the gables of his house or the windows, "A. Davie, successor to Dr. Stewart," and during a portion of the time the additional words "Surgeon Dentist," the said Dr. Stewart having been a duly registered dentist. He was also accused of having displayed on the east gable a side-board bearing the words, " Mr. A. Davie, successor to Dr. Stewart. Teeth, teeth, teeth," &c. The fourth head charged him with advertising in somewhat similar terms on the private lamps in front of his house; the fifth with using the name or title of "dentist" by having it cut on a stone on the pavement; the sixth with having inserted in the "Dundee Directory" of last year the title, addition, or description of "Dental Institute" along with his name; the seventh with causing to be inserted in the same publication an advertisement wherein there were *inter alia* "popular dentistry," "dentist," "surgeon dentist," "successor to Dr. Stewart;" and the eighth charged him with inserting an advertisement in the *Evening Telegraph* with references to his work and charges, hours of attendance, and signed, " Mr. A. Davie, successor and ten years branch manager to Dr. Stewart, South Lindsay Street, Dundee. Established 1842." All these charges, it was alleged, Davie committed contrary to the Dentists Act, 1878, Section 3, as amended by the Medical Act, 1886, Section 26, whereby he was liable in a penalty not exceeding £20.

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* Reprinted from the *Dundee Advertiser*

Mr. Andrew Buchanan appeared on behalf of the complainer, Mr. H. S. Glenny represented accused, and Mr. A. M. Ferguson watched the case on behalf of the Unregistered Dental Practitioners' Association.

Mr. GLENNY took exception to the complaint on the ground that the prosecutor was not present himself. Section 9 of the 1881 Summary Jurisdiction (Scotland) Act—one of the statutes on which the complaint proceeded—provided that every complaint at the instance of a private prosecutor or complainer under the Summary Jurisdiction Acts must be signed either by the prosecutor or complainer or by a duly qualified law agent on his behalf, and such law agent might in the absence of the private prosecutor appear in Court and conduct the prosecution on his behalf. The complaint was signed, not by a law agent, but by the prosecutor himself. In these circumstances the authority which this Act conferred upon a duly qualified agent to appear on the prosecutor's behalf did not exist. It was only when the complaint was signed by an agent on behalf of the principal that an agent could appear. If a principal chose to sign the complaint himself he must conduct the prosecution personally.

The SHERIFF asked what was the statutory authority for this English gentleman appearing at all as a prosecutor in a Scotch Court. Mr. GLENNY replied that he supposed the authority was conferred by Section 26 of the Medical Act, 1886, which made a complaint possible at the instance of a private prosecutor, where such a complaint had only previously been possible at the instance of the Council.

The SHERIFF: The Medical Council? Mr. GLENNY said he wished the prosecutor had been present himself, because they would have had some interesting information from him as to the actual position of the body of men calling themselves the British Dental Association. A private prosecution was possible, but whether at the instance of an English gentleman was questionable.

The SHERIFF : What kind of prosecution is it ? Mr. GLENNY : It is a prosecution for a statutory offence.

Mr. BUCHANAN : Imprisonment being competent makes it criminal.

Mr. GLENNY : Imprisonment is only possible if the fine is not paid.

The SHERIFF : Will that make it a criminal offence ? Mr. BUCHANAN : A quasi-criminal offence.

The SHERIFF : If it is a criminal case it must be sent to the Fiscal. Mr. BUCHANAN said it was brought under the Dentists Act of 1878.

The SHERIFF : This gentleman who prosecutes is a private person merely ? He does not prosecute in an official capacity ? Mr. BUCHANAN : I have inserted the designation of the prosecutor in order to remove any possibility of a suggestion on the other side that it was a trumped-up case.

Mr. GLENNY said the statute did not prohibit a man from practising as a dentist, but it prevented him using the term dentist or dental practitioner, or words which would imply that he was registered under that Act ; or that he was a person—and this was the crux of the whole case—not "qualified to practice," but "*specially* qualified to practise dentistry." Unless the prosecutor could show that his client had been representing himself to be a person specially qualified in the sense of the Act there could be no case against him. The SHERIFF said he could not sustain the objection. As he read the Act, a private prosecutor might do the work himself if he liked, or he might employ a qualified legal practitioner to do it for him, or he might do part of the work and get a qualified legal practitioner to do the rest. It was a very common practice for a private prosecutor to sign papers and get a legal practitioner to do the work. His Lordship had had several poaching cases before him that day, and all the complaints, if he remembered aright, were signed by policemen. A qualified legal practitioner, however, appeared to lead evidence.

Mr. GLENNY asked the Sheriff to note his objection in view of the case going elsewhere. The SHERIFF : I see plenty of confusion for the case to go anywhere.

Mr. GLENNY said there were two "A. Davie's" at the address stated in South Lindsay Street. He did not know which one his friend was to take. The SHERIFF : Take them both.

Mr. BUCHANAN : I'll take the man the complaint was served on.

Mr. GLENNY proceeded to object to the relevancy of the sixth and seventh counts. The SHERIFF : It is a very long document. This prosecutor must have been descended from some Scottish evangelical preacher. His complaint has eight heads.

Mr. GLENNY contended that the sixth count was entirely irrelevant, for the reason that the locus and time were not stated. The same objection applied with equal force to the seventh count, it having to be averred also that the offence was committed within six months of the date mentioned. With regard to counts 3 and 8, it was said that his client was contravening the Act by having attached certain words to the gable of his place of business. But he would point out to his Lordship that these words applied to Mr. Davie's work, not to Mr. Davie himself. In count No. 8 the words "a marvel of cheapness—unequalled in the profession" were taken exception to.

The SHERIFF: What profession is referred to? Mr. GLENNY: Profession means anything. I have known a man who was a joiner subsequently registered to draw teeth, and call himself a professional man. Mr. Glenny then went on to speak of the business conducted by the late Dr. Stewart. That business had been carried on by the deceased gentleman for many years, and amongst his servants was Mr. Davie, who managed several of the branch establishments.

Mr. BUCHANAN objected to Mr. Glenny's leaving the question of relevancy. Mr. GLENNY said he was endeavouring to show that Mr. Davie was no quack. Mr. BUCHANAN: That, my lord, is a question for proof.

Proceeding, Mr. GLENNY stated that after Dr. Stewart's death his widow continued to conduct the business with the aid of assistants. After a time she sold the business to Mr. Davie, and he entered into the premises as successor to Dr. Stewart in May, 1895. Dr. Stewart's old signs were then existing. Having been registered under the Act, Dr. Stewart displayed such signs as "surgeon dentist," "dentist," &c., and particularly he had engraved on his windows the words "surgeon dentist." That was the position of matters when Mr. Davie took over the business. That was not the position of matters now, however, for Mr. Davie had had every objectionable sign removed, and his lordship was asked to punish him for an offence which he had never committed. Disguise this complaint how the prosecution might, heap charges upon charges as they liked, the glaring fact remained that this was an attempt by the registered dentists to elicit a legal opinion on the question of whether an unregistered dentist was entitled to advertise. That was at the bottom of the whole complaint, and nothing else. Under their regulations the registered dentists were prevented from advertising. They got their diplomas upon the condition that they did not advertise, and they gave a guarantee that they would not do so. But they were feeling the pinch of those gentlemen who were equally capable, but who did not care to become registered under the Act. That was the position of affairs. They were brought face to face—disguise it as they might—with an attempt on the part of the Dental Association, with comparatively few members, to force upon people who were not subject to their jurisdiction an offence and penalty for advertising their business. Mr. Glenny then read the advertisements complained of, and pointed out that in none of these advertisements did a word about dentistry appear, and he submitted that in so far as they did not imply that Davie was a person "specially" qualified to practise dentistry he committed no offence. Proceeding, he said, although there was a penalty against a man practising medicine, there was no penalty against a man drawing teeth. The SHERIFF: Except an action for damages for pulling out the wrong one.

Mr. GLENNY said he objected to the complaint, on the ground not only that it must specify that he was not a person registered under the Act, but it must specifically state that he did not fall under one of the exceptions of the Act.

Mr. BUCHANAN said Mr. Glenny had missed the most important part of the complaint. He was charged with a specific breach of a statute, and the complaint mentioned eight different ways, in any one of which the prosecutor could prove that he had committed an offence. If the prosecutor proved one of these ways he was entitled to a conviction. Count No. 3 of the complaint dealt with the signboard, in which it was stated that he was the successor to Dr. Stewart, who was a registered dentist. Mr. Davie was not in a position to carry on the practice that Dr. Stewart did, and in using the words "successor to Dr. Stewart" he was using words that fell within the terms of the Act of Parliament. If a man advertised himself as successor to Dr. Stewart, he thereby implied that he was a man in the same position and qualified to do the same business as the gentleman to whom he said he was successor. Mr. Buchanan then quoted a number of authorities in support of the relevancy of the counts of the complaint.

The SHERIFF said he read the Act to mean that it was to be penal for any man to call himself a dentist or dental practitioner, or to use any such words as would have the effect of passing himself off as registered under this Act of Parliament, and that he was *specially* qualified to practise dentistry. That was to say, that he was sufficiently qualified to practise dentistry as to entitle him to be registered. It was to stop a representation of that kind, unless where the person was registered. It was to provide that a man working among teeth, and professing to do what was necessary in the way of pulling and stuffing them, should be properly qualified, and that he should not pass himself of as a registered practitioner unless he was actually registered. The question here was whether in this complaint there was enough to set forth that Davie had violated the provision of the Act by passing himself off as a dentist, dental practitioner, or a man so qualified as to be capable of being duly registered, or implying that he was duly registered under the Act. He thought the complaint sufficiently set forth that Davie violated that provision of the Act of 1878. The objections to the relevancy of the libel had been stimulated and probably induced by the prosecutor giving rather too much information—more information than he was bound to give in the way of details—and in giving, in fact, a sort of synopsis of a precognition. All that required to be stated was that within a certain time—within six months—Davie used the term "dentist" and made other representations to the effect that he was a registered practitioner under the Act. Mr. Glenny had referred to the exception in the case of medical practitioners, but his Lordship thought the doctrine had been laid down and acted upon in England that where an exception was to be pleaded in defence it was for the accused to prove the exception, and that it was not necessary to negative the exception in the complaint or by the evidence adduced in support of the complaint. The result of legislation like this was to set aside certain professions for certain people. A man might be qualified to be a Professor of Chemistry, and yet be prosecuted if he were to sell goods upon the representation that he was a chemist. The word dentist was rendered sacred to this registered body, and no one was entitled to use it unless a member of that body. If a prize-fighter called himself a dentist he would be liable to prosecution under this Act of Parliament, although he had no instruments for extracting teeth except his fists. This legislation had for its purpose the preservation of innocent and gullible members of the public from believing representations that were made, and from trusting themselves to the skill of persons who pretended to be doctors, chemists, and dentists, and who had no proper skill or qualification, and who might do a great amount of mischief to them; and it was left to a private person sometimes, and in other cases to public authorities, to prosecute. In regard to the title to prosecute here, there could be no doubt whatever, except that the prosecutor seemed to be an Englishman. Any dentist in Dundee, so far as his Lordship could judge, could have prosecuted just as well. As to the objection that the date of the advertisements were not given, all that it was necessary to show was that the course of misrepresentation went on within six months. "Successor to Dr. Stewart" was an ambiguous term. It might mean successor to some part of his business or to his house, but it did not prove much, and certainly did not prove that Davie represented that he succeeded to Dr. Stewart because Dr. Stewart was a registered dentist, and that he also was the same. Some people might reason that way. There was a St. Andrew's story his Lordship had heard that implied that kind of reasoning. A gentleman who used the title of Major was once golfing in St. Andrews, and some one asked his "caddie" to what regiment the Major belonged. The "caddie" said—"Weel, I dinna think he's a Major at a'. He married a Major's widow, and keeps up the title." That was the kind of successor it might have been. His Lordship concluded by remarking that he would have been glad to avoid proof in this case, but he did not see it was possible to do so.

After some conversation with the agents as to the nature of the plea to be tendered, the Sheriff said he did not think it was a serious case at all. It did not require a gentleman from London to protect the teeth of the people of Dundee, as the Small Debt Court could do it as well.

Mr. Davie finally denied the charge, and the case was continued till Monday for proof.

A. Davie, South Lindsay Street, appeared before Sheriff Campbell Smith at Dundee, June 20, in connection with the prosecution against him for an alleged breach of the Dentists Act. The case was discussed on Friday, but was continued till yesterday for evidence. The charge against accused was that he, not being a person registered under the Dentists Act, 1878, and not being a legally qualified medical practitioner, represented himself as a person registered under the Dentists Act, or that he was a person specially qualified to practise dentistry, and was a legally qualified medical practitioner registered under the Medical Act, or as possessing one or more of these characters and qualifications. Mr. H. S. Glenny appeared for the accused, Mr. Andrew Buchanan for the prosecutor, and Mr. A. M. Ferguson represented the Unregistered Dental Practitioners' Association.

Mr. GLENNY stated that, following on what took place on Friday last, the agent for the prosecution and he had had several consultations regarding the matter. The result of these consultations was that they had adjusted a limited plea. The specific charges, 3, 4, 5, 6, 7 and 8 were all withdrawn. Under 1 and 2 accused proposed giving a limited plea that during a portion of the time mentioned in the libel he contravened the Dentists Act, Section 3, by having the words "Dr. Stewart, surgeon-dentist" upon the windows of the premises of which he was a tenant.

Mr. BUCHANAN, who intimated his acceptance of the plea, said, under the section of the Act, the penalty was a fine not exceeding £20 and expenses.

The SHERIFF: Where do you find expenses? Mr. BUCHANAN: Under the Summary Jurisdiction Act.

Mr. GLENNY said he was afraid he could not plead that a private prosecutor was not entitled to expenses, although a Public Prosecutor was not entitled to them unless the Act under which he prosecuted specially allowed them.

The SHERIFF: What is to become of the fine if I impose it? Mr. BUCHANAN replied that the Queen's Remembrancer had sent out a circular to the effect that the fine was to go to the Exchequer.

The SHERIFF said he did not know the Queen's Remembrancer had power to supplement Acts of Parliament. Mr. BUCHANAN: It would probably fall on a Treasury minute.

Mr. GLENNY stated that his client had pleaded guilty to a very technical breach of the Act, and that being so, it was only a case for a nominal penalty. It was the first prosecution of the kind in Dundee, and it was not the aggravated offence of a person actually putting up the words complained against, but it was the simple infringement of allowing words which previously existed to remain for a longer time than perhaps should have been done. Mr. Davie became successor to Dr. Stewart on May 28 last, and at that time there were a large number of signs up, and, so far as practicable, Mr. Davie removed all those signs between the time of his entry and July. The words he had pleaded guilty to using were painted upon the windows, and they remained there till September. The reason why these signs were left so long was partly on account of the painters' strike, which lasted for six months, and only terminated some time in July. Following upon the settlement, there was a fortnight's holiday. He submitted that the sign was removed with all reasonable despatch. It was not there now, nor was there any sign which was objectionable to the Act. The word "dentist" on the carriage door step, which was cut out by Dr. Stewart, was cemented up in July, and when it was picked out by boys it was again cemented up. Mr. Davie had done his best to prevent a contravention of the Act, and he had no intention whatever of contravening the Act in the future. Seeing that it was not a sign actively put up by him, but one that was passively allowed to remain, it was a case for a very modified penalty. Mr. Davie had incurred considerable expense in the case already, and the plea which had been accepted had been offered all along.

Mr. BUCHANAN said he wished to controvert the statement made by Mr. Glenny that this was a merely technical breach of the Act. Accused had pleaded guilty to using the words "surgeon-dentist" on the windows of his premises during a portion of the time between July and December.

The SHERIFF: Is it not rather an encroachment on the freedom of English speech to set apart the word "dentist" for the use of 300 or 400 men? Mr. BUCHANAN: There are some 3,000 or 4,000.

The SHERIFF: The English language would become very scarce of words by-and-bye if every 3,000 or 4,000 people were to claim one single word. Mr. BUCHANAN: There is no getting behind the Act of Parliament. The same principle applies to veterinary surgeons and chemists.

The SHERIFF: There is no Act of Parliament against using the word "doctor," except in a certain sense. Mr. BUCHANAN: There is an actual Act of Parliament here. I do not think we can go beyond that. Using the words "surgeon-dentist" does not form a merely technical breach of an Act which prohibits an unqualified person using the word "dentist" at all.

The SHERIFF: He may have been in furnished apartments. Mr. BUCHANAN: He has pleaded guilty to being a tenant of the premises.

The SHERIFF: Lodgers cannot meddle with landladies' windows.

Mr. BUCHANAN : Even if he had been a lodger and used the words he would have been liable under the Act.

The SHERIFF : If he used them ; but if he merely looked at them. Mr. BUCHANAN : If by the use of the words he induced people to enter his premises and operated on their teeth he would be liable.

The SHERIFF : He is not charged with drawing teeth. Mr BUCHANAN : He is charged with representing himself as a dentist, and he has pleaded guilty to that.

The SHERIFF : It would be a far stronger case if it were proved that he said to some one that he was a registered dentist. Mr. BUCHANAN : I am not bound to enter into that.

The SHERIFF : That is the reason I did not sustain the plea of irrelevancy. Mr. BUCHANAN referred to previous prosecutions in Cupar and Edinburgh, and stated the penalties imposed ranged from £2 10s. to £7, with expenses.

Mr. GLENNY : There were several cases in England and Ireland where the expenses had been modified to £1 1s. Mr. BUCHANAN : I never heard of them.

The SHERIFF : Acts of Parliament ought to have reason and justice at the back of them. Can you tell me what justification there is in reason for the imposition of a penalty on a man calling himself a dentist. Mr. BUCHANAN : It is to protect the public.

The SHERIFF : That is to say, to secure to the public that the man who does the work of a dentist shall be properly qualified? Mr. BUCHANAN : Yes.

The SHERIFF : The public generally can protect themselves against people improperly skilled. Mr. BUCHANAN : Probably, after experience.

Mr. GLENNY : My information is that there is only one registered dental practioner in Dundee who is qualified by University training for the practice of dentistry. Mr. BUCHANAN : I am afraid I must contradict my friend.

The SHERIFF : I do not see how it requires a University training to be a dentist any more than it requires such a training to be a cabinet-maker or a jeweller.

The SHERIFF said it was his duty to administer the law—both statute and common—according to its fair meaning and intent. It was no part of his duty to scrutinise the principles of justice that underlay a statute, except in so far as to see that he did not carry its effects, if he could help it, beyond the confines of justice. Every penal Act required to be strictly construed, more especially an Act imposing penalties, which had the double purpose of protecting a monopoly and protecting the public. The latter was a social necessity ; the former was not, unless in so far as it contributed to the latter. No monopoly could be justified by the principles of any code of social philosophy except the principle that the special monopoly was, upon a wide view of the interests of society, for the greater advantage of the whole community. That alone, in the field of right and wrong, could justify interference with individual freedom that was with the unfettered freedom of trade and of personal skill and labour. The professions of law and of medicine were strongly fenced in as monopolies because a special education and standard of attainment was expedient in the public interest to protect bodily health and organic structure and function from the experiments of rashness and of ignorance, and the property and freedom of individuals from the extortions of persons with zeal without knowledge, and the irresponsible advices and devices of swindlers and beggars. The Church was not so well fenced in except as to manses and stipends and creeds established by statute, or settled by contract, because the religious advice of fanaticism and of ignorance sometimes did good even in the way of amusement, and, beyond sending an occasional nervous weak-minded person to a lunatic asylum, never did any harm. That dentistry—that branch of the medical and surgical art which related to the care of the teeth—should be constituted a monopoly in the interest of specially skilled qualified persons, but also in the interests of the public, he was very far from doubting. He thought no one should be induced to trust a single tooth, however ruinous, to an artist who pretended to have had a special dental education of the kind that was guaranteed by his being enrolled in a statutory register, when in point of fact he was not. On the other hand, he did not see why a joiner, or a blacksmith, or a barber, or any one that could use pinchers, should not draw a tooth if the person upon whom he was to operate was not deceived as to the nature and extent of his dental skill ; or why a jeweller who worked in gold and precious stones should not make and do the necessary setting for false teeth, or of real teeth which had lost their natural foundations. When he looked anxiously for the only principle that could justify this prosecution, he ascertained that it was not to support a monopoly, though that might be a consequence of it, but to put a stop to the practice of deception (if the deception be without purpose) or of positive fraud (if the deception be set about with intent to deceive). He had already decided that the use of the terms dentist and dental practitioner was forbidden to all except registered dentists under the Act of 1878, and the Medical Acts providing for registration. He might think that the statutory consecration of a word like "dentist" to the exclusive use of the institute of registered dentists or any other trade union, however educated and genteel its membership, was an interference with the free use of the English language which had no proper justification ; but he had not been able to discover how he could help himself when he found that under a similar Act of Parliament Mr. Justice Hawkins, one of the most acute and accurate logicians in England and one of the most liberal-minded and rationalistic occupants of the English Bench decided that it was penal for a tradesman so unscientific as a shoer of horses, which was to a greater and less extent the calling of every country blacksmith in Scotland, to describe on a signboard his establishment as a "veterinary forge," though the Sheriff fancied if he were like most English horse-shoers he would have described himself as a "veteran forger," or by any other flaunting epithet, with the serene indifference of ignorance. His lordship had held the libel relevant, because he must, and might have had to determine whether it was proved, and, if proved, whether the deception was innocent and unconscious deception, or that knowing, intentional deception which was of the nature of fraud. The plea of guilty now tendered and accepted rendered it unnecessary that proof should be led. The plea involved admission on the part of accused, after taking possession of the premises occupied by the late Dr. Stewart, that he allowed the words surgeon-dentist, painted on the windows for Dr. Stewart, and correctly designating him, to remain from June to September, when they were removed, as he understood, voluntarily, and not under threat of this prosecution.

Mr. BUCHANAN : With all due deference, my lord, yes.

Mr. GLENNY : With all due deference, my lord, no.

Mr. BUCHANAN : He was warned by the Association. Mr. GLENNY : The order to do this work was given long prior—immediately on Mr. Davie's entry.

The SHERIFF said he took the deception caused by the allowing of these words to remain to be presumably—and he was obliged to presume all that was possible in favour of innocence—to involve the minimum of guilt or fault in so far as the statute was concerned. It would have been a very different thing if he had passed himself off to an individual as a registered practitioner. The criminality of failure to remove two painted words did not appear to his lordship to be great when weighed in the scales of morality, and, if possible, still less when weighed in the scales of Mammon. He had no reason to believe that this unregistered dentist ever did any harm to the public or any member of it, considered merely as a member of the public. If he did, the law of reparation could be invoked against him. He believed accused had rendered cheap dental services to the poor. He doubted if he had deprived any dental registered monopolist of any lucrative part of his business. At all events, he did not feel bound to support any monopoly by the imposition of a vindictive punishment. The fine he imposed was the nominal one of 1s. and the expenses he allowed by way of enforcing and advertising the statute were £2 2s., the alternative being six days' imprisonment.

In connection with the above prosecution the following letters to the *Dundee Advertiser* and *The Scotsman* may be of interest :—

To the Editor of the Dundee Advertiser.

SIR,—The comments of Sheriff Campbell Smith in delivering judgment upon this case and the editorial article in your issue of January 21, seem to call for a few words from some one familiar with the working of the Dentists Act. The defendent pleaded guilty and the Sheriff inflicted a nominal fine and small costs. So far good. The Sheriff had to decide upon facts before him, and may have considered that circumstance extenuated the breach of the law, although those who have had much experience in these cases have become somewhat sceptical, as to these breaches of the law being committed through any sort of inadvertence. And, although much that was said by the Sheriff showed that he had made himself acquainted with the words and the spirit of the law, yet he let drop several expressions to which, as judicial utterances, exception may fairly be taken.

As remarked by the Sheriff, "It was no part of his duty to scrutinise the principles of justice which underlay a statute." Nevertheless, he virtually does so repeatedly in the course of the case. The Legislature has seen fit to secure to the public the power of selecting persons who have received an appropriate education, and have—except in the cases of those who were in practice prior to the passing of the Acts—been tested by examination. This has been done in the law, in medicine, in dental surgery, in veterinary surgery, and in pharmaceutical chemistry, by prohibiting all persons not so qualified from the use of certain descriptive titles which denote the possession of these several qualifications.

This is the whole point at issue. It is not a question of any isolated Act of legislation, but of a general principle adopted in this and nearly every other civilised country. Indeed, in this matter most countries have far more stringent regulations than those which prevail here. Hence it seems almost absurd to speak of the monopoly of a word. That word, or combination of words, is a description, a designation of something particular, reserved for the use of those who are correctly described by it, and forbidden to others. Thus, in the particular case of dental surgery it tells the public that the person using it either was in practice prior to 1878, and hence has had at least eighteen years' experience, or else that he has been educated as prescribed by the qualifying bodies, viz., the English, Scotch, and Irish Royal Colleges of Surgeons and the Faculty of Physicians and Surgeons of Glasgow, and has been examined as to his competence and approved by one of them.

The inaccurate and misleading letter of the Secretary of the Association of Unregistered Dentists calls for no comment. Its statements are sufficiently answered by what has already been said.

I am, &c.

Charles S. Tomes, M.A., F.R.S.,
Late President British Dental Association, Inspector for the General Medical Council of Dental Examination in the United Kingdom.

To the Editor of the Scotsman.

Sir,—Considerable surprise will naturally be created at the remarks of the learned Sheriff-Substitute of Dundee, Mr. Campbell Smith, in the case of the "British Dental Association *v.* Davie;" remarks which it seems unfortunate should have fallen from so high an authority, and which, it is to be hoped, were due to a defective acquaintance with the subject upon which he, no doubt unthinkingly, expressed his opinions. "Be his intents wicked or charitable," however, they come in such a questionable shape as to be capable of grave and hazardous misconstruction. The learned Sheriff sets aside the opinion—perhaps he may consider it the prejudice—of what may be fairly assumed as the whole medical faculty throughout the world when he so strangely implies that no surgical knowledge whatever is required for dealing with dental diseases. It would be out of place here, and probably of little use attempting to exhibit to him the magnitude of this stupendous mistake; but unless utterances of the kind were particularly well founded, they bear the *imprimatur* of so high an authority that, although to some extent they may make the unskilful laugh, they cannot but make the judicious grieve. Surely Sheriff Campbell Smith cannot believe that what he calls "tooth-drawing" constitutes the science of modern dental surgery, or that no surgical education is necessary for its legitimate practice, as it is in aural, ophthalmic, or any other special branch of medicine. If such be the general principle he upholds, why should it not be applied to minimising the requirements of his own profession? Why should not the more simple and equally effective methods of Lynch law be adopted instead of observing all the pomp and circumstances of "the bench," or even the paraphernalia of a Sheriff Court? It surely does not require a "University education" to entrap a pickpocket, or to convict a disorderly, or to enforce the mandate to "move on."

The Sheriff no doubt means well, and acts on the strength of his own convictions. But it is interesting to see a man of his high and cultivated intelligence so forcibly illustrating, as regards the case under notice, that a little learning is a dangerous thing, whether in dentists or Sheriffs. I am, &c.,

J. S.

Prosecution under the Medical Act.

THE General Medical Council is to be congratulated on the result of the summons heard at Marlborough Street on January 28. One Albert Bell was summoned for using the titles of M.D. and doctor without being a duly qualified practitioner. There was also a second summons under the same Act. On the defendant's name being called there was no answer, and it was stated that Bell had been dead for several years. Mr. Abrahams, who appeared for Henry Walters, stated that his client had bought the business from the late Mr. Bell. The summons was then amended, and Mr. Abrahams said that his client had already removed the letters objected to from the plate outside his house. The business as "Dr. Bell" had been carried on for many years, and no complaint had been made. His client did not prescribe physic, but a belt, "which would cure anything and everything in a month." The magistrate imposed a fine of £20 and £6 6s. costs, with the alternative, in default of distress, of two months' imprisonment. The case is a striking example of the laxness with which the Medical Act has hitherto been administered. The matter was, we believe, brought to the notice of the General Medical Council by the representative of the Royal College of Physicians of London.—*British Medical Journal.*

Reports of Societies and other Meetings.

The Odontological Society of Great Britain.

THE usual monthly meeting was held on the 13th ult. Mr. DAVID HEPBURN, President, in the chair.

The minutes of the previous meeting were read and confirmed.

Mr. STORER BENNETT announced that several interesting specimens of bone plates, some with teeth carved in the bone, and others with natural teeth, had been sent to the museum. Mr. Farebrother had sent a specimen of vulcanite plate of rather primitive workmanship, and also four incisor teeth, showing effects of erosion. Mr. Morton Smale had presented two pathological specimens, both being skulls of deer, showing alveolar abscesses.

Models of supernumerary teeth were presented by Mr. Gartley.

Mr. MUMMERY exhibited a section of elephant tusk, showing a large pulp stone in the centre, and a section of the tusk of an Indian elephant, in which a green stain was present in the ivory, due, in all probability, to some vegetable substance used as food.

Mr. J. F. COLYER exhibited a case in which there had been very rapid decay of teeth in a girl aged 8. When she first came under his observation the upper central incisors, the four lower incisors and the temporary first and permanent molars were all badly decayed. The first permanent molars were also in a very carious condition, the decay being of that very soft character in which it seemed almost hopeless to do anything for the patient. The treatment he adopted was once a week for the first month, to thoroughly coat the teeth with nitrate of silver. He also gave directions to apply spirits of wine to the teeth twice a day, to harden the dentine. The nitrate of silver was subsequently applied once every two months. The result had been very satisfactory, the decay being, for the time, arrested. He mentioned the case as showing the beneficial effect of the nitrate of silver treatment.

Mr. VANDERPANT asked if Mr. Colyer had traced any anæmic history, and whether he considered it an ordinary or an extraordinary case. He had himself met with similar cases, but had not adopted the treatment mentioned, owing to the discolouration it necessarily produced.

Mr. BEADNELL GILL said the treatment described was one that he had adopted for the last twenty years. He had not found much benefit from the use of spirits of wine, but the nitrate of silver treatment, both for temporary and permanent teeth, when judiciously and carefully carried out, gave very good results. Of course the discolouration was a drawback, but considering that it was applicable, especially to teeth habitually looked upon as hopeless, he thought they might safely adopt a treatment which, although it might discolour, yet saved the patient the annoyance of being without teeth.

Mr. F. J. BENNETT suggested that when the teeth, some of which were temporary, were shed, sections should be made of them so as to see the exact effect of the nitrate of silver upon the dentine. He had himself used it to coat the surface of roots in pivoting teeth.

Mr. J. F. COLYER, in reply, said he could not account for the extensive decay in his case, except that the child was of an extremely strumous type. The first permanent molars and the upper incisors showed the well-marked honey-combed condition, which naturally predisposed them to decay. He applied the nitrate of silver by melting it on a piece of wire. By that means the caustic could be applied to any part, and there was no possibility of its slipping and passing down the throat. He could not quite agree that spirits of wine was not useful, for undoubtedly in some cases it helped to harden the teeth, whilst in others its use induced patients to look after their teeth and so benefit them. He had used nitrate of silver during his whole practice, and always with good results. He should be very pleased to give one or two of the teeth to Mr. Bennett when they were extracted.

Dr. Buxton read the following paper, entitled, "The Nature of Anæsthesia : an Appended Note" :—

To understand the true name of anæsthesia has proved a difficult problem to many. It is to inquire what we know about anæsthesia that this note is written.

Paths of Anæsthesia.—(*a*) Nerve endings ; (*b*) sensory nerves ; (*c*) ganglionic centres ; (*d*) perceptive mechanism. Anæsthesia occurs under various conditions. All are familiar with the disorders of sensation, which occur in various forms of nervous disease, and give rise to hyperæsthesia on the one hand and anæsthesia upon the other. (*a*) Variations in the inter relations of the end-organs of the skin or mucous membrane ; (*b*) of the sensory nerve, or nerve of conveyance ; (*c*) of the ganglionic nerve centres which translate the sensory stimulus into a feeling ; and (*d*) the consciousness which perceives the feeling as pain or pleasure, may under morbid conditions of the organism give rise to true anæsthesia. Artificially we are able to bring about the same state of things producing a transient anæsthesia. General anæsthetics, even in a very early stage, will act upon (*c*) the ganglionic nerve tissues and prevent painful sensations being recognised. A few inspirations of ether or chloroform will, without paralysing motion or dulling the conductivity of the nerves, remove sense of pain, even though the patient may struggle, fight, or express his views on what is passing through his mind.

In hypnotism we possess an example of a state in which pain is felt but perceived as pleasure. It is, after all, life is not ; only what it seems. The curious in such matters will find from Moll's book many examples of unquestionable instances of absolute anæsthesia, although there was every reason to believe that both the end organs in the skin, the sensory tracts and the ganglionic nerve tissue were intact and capable of producing and conveying sense stimuli ; nevertheless the perception arrived at was not that of pain. The perceptive mechanism was blocked. In the days of Moore, anæsthesia was attempted by compression of the nerve trunks, and nerve sensations were thus blocked at the point of pressure. Thus every link in the chain between skin which initiates the sense stimulus and the nerve centre which initiates the perception of pain, has been tested in the endeavour to achieve surgical anæsthesia.

Peripheral Sense Organ Anæsthesia. — Local anæsthesia, the blocking of the sense stimulus at the skin or mucous membrane is, of course, of little value for any save the most trivial operations. The agents employed and the elaborate plans suggested to produce it have not proved themselves safe or sufficient.

Bichât, whose ever delightful book on "Life and Death" deserves more study than it gets nowadays, taught the duality of life, a life of mere functional existence and one of relativity. In anæsthesia produced by agents such as nitrous oxide, ether, chloroform, the life of relativity falls into abeyance, while the functional life or existence persists.

But just as it is found impossible to limit the activity of a local anæsthetic to a regional area, so is it impossible to draw a hard and fast line between the influence of a general anæsthetic upon the cerebral centres and its overflow to the vital centres.

Aim of Anæsthesia.—The problem before us is to discover how best to produce anæsthesia without allowing the ordinary processes of life to be trenched upon. We have advanced some distance along the road leading to this discovery, but we still have very much to learn, and what is more, very much more to unlearn.

In the study of action of anæsthetics alcohol has been suggested as one of the best substances to study to arrive at an idea of the way in which they act.

It may be useful in this place to ask what definition of anæsthetic is to be adopted. It seems to be now generally admitted that although many things may produce loss of sensation through abeyance of the faculty whereby we feel pain, yet none should be regarded as anæsthetics unless they exert some definite influence upon the tissues of the body rendering them indifferent to pain, and that quite irrespective of their preventing due access to the tissues of some vital constituent.

Several examples were then instanced by the author bearing upon the question of true and false anæsthesia, pointing out at the same time that a state of unconsciousness is not necessarily one of anæsthesia, and that in this manner such bodies commonly employed as anæsthetics—nitrous oxide, ether, chloroform, differed in their action from CO_2. That this is so our present knowledge permits us to say, but compels us to admit that so far as many of our methods are concerned, anæsthesia is as Dastre has said, the first step in a general poisoning of the organism. It is the realisation of the truth of this dictum which compels us at once to recognise the necessity of understanding the precise range of safety limiting artificial toxæmia, and to appreciate the responsibility falling upon those who undertake the control of producing and limiting it.

The theories of anæsthesia were then dealt with. Following on, the author discussed the mode of action of anæsthetics. He remarked that it was a matter of very serious moment to ascertain in what way the anæsthetic enters the organism, what paths it takes, and by what means it is thrown off. Knowledge upon these points will enable us to ascertain how far anæsthesia trenches upon the vital processes of the organism. The lungs, the heart, and the brain have been called the tripod of life. Death, we know, must occur when the lungs or the heart cease to perform their function, but of the cerebrospinal axis only the lower ganglionic centres are, even in mammals, essential to the existence of the animal. Hughlings Jackson in his lectures on the Evolution and Dissolution of the Nervous System, after pointing out that the evolution of the nervous centres is the "putting together of the nervous system," and involves a correlation of the most automatic with the most voluntary, the automatic being through the necessity of the existence of the creature the most stable, and hence most highly organised, the most voluntary being open to constant change to meet environing necessities, and hence most unstable and less organised, goes on to show how dissolution is the reverse of this evolution, is, in point of fact, unpicking the lock of life. He adds: "In uniform dissolution the whole nervous system is under the same conditions or evil influence, the evolution of the whole nervous system is comparatively evenly reversed. In these cases the whole nervous system is 'reduced,' but the different centres are not equally affected.

"An injurious agency, say alcohol, taken into the system, flows to all parts of it, but the highest centres being the least organised, give out first and most; the middle centres being more organised, resist longer, and the lowest centres being most organised, resist longest. Did not the lowest centres for respiration and circulation resist more than the highest do, death by alcohol would be a very common thing." If we replace the word alcohol by alcoholic anæsthetic in Dr. Jackson's remarks, we arrive at the pith of our subject.

It is, then, the sum and aim of the scientific use of anæsthetics to act upon the higher and more unstable centres of the nervous system without affecting the lower or automatic centres. But the problem cannot be narrowed down to this easily appreciated theorem. The inter-relations of the higher with the lower centres, in highly differentiated animals, are many and intimate. Dangers appear in every zone of narcosis, lest impulses become initiated which involve the stable centres through the unstable ones.

Under normal conditions the purely vital functions of life are controlled by the lower centres, and indeed, in more humble animals, are incapable of being influenced by higher centres. The simple reflexes of life are controlled when the higher centres are working in health. As soon, however, as any disturbance of these centres occurs through it may be an "injurious agent," as Dr. Jackson calls it, there is a danger and a very real danger lest simple stimuli from without cause the most widespread reflex actions. Even those protective of the vital processes become, when unrestrained by limiting nervous control, inco-ordinated, and make for the destruction of those very processes of life which it is their function to preserve. And further, the due performance of the vital processes depends upon not only nerve impulses and viscera and muscles. It requires that these shall be in such a condition of vitality that they can perform their physiological duties. It pre-supposes also that these shall be able to meet unusual calls made upon them ; if for example, the "injurious agent" at work, be an anæsthetic which produces a sudden fall of blood pressure for safety, the controlling centres of the organism must be equal to some re-adjustment by which this vascular depression may be counterbalanced. It also necessitates that throughout the whole time of the action of the injurious agent the tissues of the body shall receive their due quota of nourishment. This last essential implies that the blood stream shall be maintained pure in sufficient circulation, and capable of removing the products of tissue metabolism. A circulation capable of at once feeding and depurating tissues can only be one which passes through the lungs, and there becomes subject to those gaseous exchanges which occur in physiological life. Nor is the problem as yet clearly before us. Elimination of the injurious agent is at least as essential as the due control of those safeguarding vital processes against which it militates. Take chloroform, for example. In persons whose chests are, through pulmonary emphysema, in a state of constant inspiration, the expiratory efforts are so ineffectual that the heavy vapour readily drops into the ever patent air cells, and there accumulates, until it reaches a tension which interferes with and threatens the mechanism of life.

In the same way heart failure may occur in spite of a normally acting system of safeguards in the nervous system. If in response to demands made upon the heart by impulses from the nerve centres, that organ through disease is unable to execute the work required of it, fatal syncope arises.

All anæsthetics in common use enter the blood stream through the lungs. The inhaled vapour in passing over the pulmonary mucous membrane produces changes in its epithelium which, according to

McKendrick Newman and Coats, is inflammatory in character. These changes are, however, rendered less and less as the vapour employed is diluted more and more. It is probable that these effects are the result of an irritant as far as the epithelial cells and capillaries are concerned. The influence upon the corpuscles is, however, different, and, furthermore, vary in the case of different anæsthetics. In every case blood removed from the body and shaken with an anæsthetic shows destruction of the corpuscles, and reduction with pouring out of the hæmoglobin. It would appear also that a similar if a less marked phenomenon occurs in the body. Da Costa has demonstrated that "Etherisation produces a marked diminution in the hæmoglobin of the blood." He also finds that with destruction of the red discs, a change in the character of the leucocytes becomes apparent. I am at present investigating this point, and have up to the present time found that a decided diminution in the corpuscles takes place under nitrous oxide, ether and chloroform. It is, however, not improbable that factors other than the anæsthetics may be found at work in bringing about the result.

The combination or association between the gaseous anæsthetics or vapours and the constituents of the blood must be a loose one, since in their presence oxygen is displaced. Were they to form combinations as stable as that which carbonic oxide establishes, not only would the anæsthetic displace, but would render it impossible for the reformation of oxy-hæmoglobin. Hence death must result. Whether or not, in certain conditions, the corpuscles have less power of again taking oxygen after prolonged anæsthetisation it is impossible to say. It seems that probably such is the case.

When it is remembered that the tissues are dependent upon the red corpuscles for their nutrition, this question of their destruction by anæsthetics assume a position of great importance.

We have yet to learn how far pathological conditions affect the oxygen capacity of blood corpuscles. It is known that this capacity does differ under certain conditions in health. It is not impossible that the behaviour of anæsthetics towards the corpuscles may be such as to modify in a material degree their capacity for conveying oxygen to the tissues. The behaviour of anæsthetics towards corpuscles also illustrates a further and important point in our present consideration. There is a common tendency to accredit the central nervous system with absolute control over the vagaries of anæsthetics, to believe that if the ganglionic centres are keeping pace with the requirements of the organism that no fear of danger need be entertained. Certainly in the case of chloroform this belief is delusive. That body is a virulent protoplasm poison. Ether and nitrous oxide also act upon undifferentiated protoplasm, and all anæsthetic agents are able to influence living tissue, even when devoid of nervous connections. Pickering, working with the embryonic heart, has demonstrated that not only does chloroform act directly upon tissues out of nervous control, but so far differentiates between them as to affect them in various degrees.

It must be then that these anæsthetics are able, quite independently of the central nervous system, to act upon corpuscular and muscular tissue. Thiem and Fischer's research indicates that chloroform can produce a change in the heart muscle, which appears identical with fatty degeneration; while McWilliam has proved that dilatation changes in the capacity of the heart as a whole, follows immediately on the inhalation of chloroform. These changes, also influenced largely by the actual quantity of chloroform contained in the blood, as well as the length of time it has access to the tissues. It is further probable that the changes which we know take place as a result of alcohol, possess analogues in those brought about by anæsthetics, and so that the nervous tissue is also structurally affected by them. Waller and others have demonstrated the changes in isolated nervous tissue, but as yet no full research has been conducted upon the nervous elements as they occur in the body. An attempt was made in this direction by me in working out the physiological action of nitrous oxide with results which, I think, proved the anæsthetic properties of that gas. It must then appear probable that the changes brought about in the blood elements react upon the more stable tissues by lessening their supply of oxygen while the tissues themselves are brought under the influence of the anæsthetic which the blood stream conveys to them. The next changes which are brought about by the anæsthetic are those connected with respiration, circulation, and nerve regulation.

In obedience to stimuli conveyed from the lungs, diminution of the amount of oxygen or its excess lead to corresponding respiratory efforts. In association with these are the somewhat complicated series of changes in the blood-pressure, the cardiac rhythm, the dilatation and constriction of the capillary areas which go to form the blood circulation. Not only may these be thrown out of gear by impediment to the pulmonary circulation arising from asphyxia, the commonest danger of anæsthetics, but may be profoundly affected from without through skin or visceral stimuli, leading to disaster. Oliver by means of his ingenious instrument, the arteriometer, is able to record changes in the size of the blood-vessels under various circumstances. He very kindly assisted me in some observations made at University College Hospital, and we found that during various stages of anæsthesia, the pulling upon the intestines, the spermatic cord, &c., incident to various operations upon viscera, produced the most startling changes in the diameter of the radial artery. This must indicate a profound series of impressions upon the control system. To my mind, many disasters under anæsthetics are explicable by these observations. Under chloroform especially, the shock conveyed by the removal of a tooth would, if the anæsthesia were not deep in a certain number of cases, produce reflex inhibition of the heart. That this reflex inhibition does occur has been proved by many observers, but the results of Amrus and Gärtner are conclusive. Even where the animal is deeply anæsthetised, they found weak, faradic currents applied to the vagus produced a very prolonged heart-stoppage. When the heart-pause had persisted for a certain time, respiration also failed, slight spasms succeeded.

In the paper to which I have referred above, Lauder Brunton insists upon a form of death under anæsthetics, which is certainly a common one, and which, when recognised, must relieve anæsthetics of responsibility in very many fatalities. Adopting Caspar's views he attributes these deaths to neuroparesis. Not only do circulation and respiration fail simultaneously, but all the nervous centres are instantly annihilated. The death is one of shock. It may follow surgical shock; it may and does result from pain felt during imperfect anæsthesia, or even before any appreciable amount of the anæsthetic has been taken. I think a study of the cases of fatalities published will convince you that in a large number of examples death results from neuroparesis.

Anæsthetics are, however, not simply dangerous *per se*. They too frequently have to be given to those whose tissues are already in a diseased condition. Take anæmia, fatty degeneration, "renal inadequacy," various functional and organic diseases of the ganglionic centres—of the heart—and cyanosis, the result of obstructive pulmonary or cardiac diseases, as examples of the many pathological states which place a patient, even before taking an anæsthetic, in a condition which renders him especially liable to suffer from such phenomena caused by anæsthetics as destruction of corpuscles, irritative inflammatory changes in the epithelium of the lungs and kidneys, fatty changes in the heart, irregular and uncontrolled nerve storms. All such people must take an anæsthetic. What, then, are the practical lessons our present knowledge teaches us? In general, we must conclude that the action of the anæsthetic should be restricted within those clearly defined limits which involve only the higher ganglionic centres; that under no circumstances should incomplete anæsthesia be deemed sufficient for even the most trivial operation.

Of methods, our present knowledge allows us to say much, but it is impossible for me to do more than indicate in the briefest way what rules should guide us. All methods involving asphyxial symptoms are open to grave censure. In the case of all anæsthetics it is possible to produce unconsciousness, and yet to avoid cyanosis. Nitrous oxide, once thought to be an asphyxiant, is now known to be a true anæsthetic, and to be capable of being given with oxygen or air, and to produce peaceful anæsthesia without any asphyxial phenomena. Of ether the same is true. Of chloroform it must be said that any association between it and asphyxia, must lead in the healthy subject to grave peril, in the diseased to fatal results.

A word further. Close study of the behaviour of anæsthetics makes me certain that all methods which employ a large quantity of anæsthetic substances are faulty. The pneumonia, the renal catarrh, the cardiac asthenia following anæsthesia are due, in most cases, not so much to the anæsthetic as to the unwary way in which it is employed.

Mr. STORER BENNETT thought one very interesting point of the paper was the reference to the solution of blood corpuscles that took place when chloroform was administered, and the explanation thereby given of those unfortunate deaths that had occurred after the patient had apparently recovered from the effects of the anæsthetic. Another interesting point was the sort of fatty degeneration that took place after several administrations of chloroform, which had a very practical bearing upon cases in which patients urged as a reason why chloroform should be administered to them, that they had had it several times before. He thought that on hearing that chloroform had been administered on more than one occasion previously, they should be more than ever satisfied that they were right in declining to sanction its repetition.

Dr. HEWITT said he had listened with great interest and profit to Dr. Dudley Buxton's brilliant *resumé* of the whole subject of anæsthetisation. He fully agreed that it was their duty to administer anæsthetics in such a way as to interfere as little as possible with the processes of life, which was the point of the paper.

The thanks of the Society having been accorded to Dr. Dudley Buxton and to the authors of Casual Communications, the Society adjourned.

The usual monthly meeting of the above Society was held on the 3rd inst., Mr. DAVID HEPBURN, President, in the chair.

The minutes of the previous meeting having been read and confirmed, the following gentlemen were proposed as non-resident members of the Society :—George Henry Bowden, L.D.S.Eng. and Glas., Roseneath, Reigate, Surrey ; T. Rubery Chambers, L.D.S.Eng., New Inn Hall Street, Oxford.

The following gentlemen were elected resident members of the Society :—Frederick Lawson Dodd, L.R.C.P.Lond., M.R.C.S.Eng., L.D.S.Eng., 41, Wimpole Street, W. ; Walter S. Nowell, M.A. (Cantab.), L.D.S.Eng., 41, Wimpole Street, W.

The following gentlemen were elected non-resident members of the Society :—Ernest Catt, L.D.S.I. and D.D.S.Mich., 11, Valley Bridge, Scarborough ; W. Fergus Cornelius, L.D.S.Eng., 29, Orchard Gardens, Teignmouth ; Edmund Lewis Dudley, L.D.S.Eng., 14, The Circus, Bath.

Mr. STORER BENNETT reported the presentation to the Museum, by Mr. Morton Smale, of the skull of a crab-eating raccoon, showing a supernumerary pre-molar in the upper jaw. The Council had authorised the purchase of two skulls—one of an old dog showing a good deal of absorption, with deposits ; and the other of a young baboon, showing the result of rickets in the late and irregular eruption of the teeth.

The PRESIDENT referred to the death of one of the members of the Society—Mr. George Gregson, of Harley Street. Mr. Gregson had been a member since 1857, and had filled the offices of Secretary, Member of the Council, and Vice-President. He was well known to them, and his death would be to them all a great sorrow.

Mr. UNDERWOOD brought forward a case of artificial nose. The patient was present. The nose was affixed by means of spirit gum to the face, and could be easily removed. Mr. Underwood explained that in his first attempt the nose was attached to a pair of spectacles. This was, however, found to be inconvenient, and in the present case it was affixed with spirit gum. This, of course was not very permanent, it being taken off at night and put on in the morning. He hoped later on to arrive at some method of enamelling the artificial nose which would bear the washing and changing without destroying the colour. At present oil paint was used, the glow being destroyed by a powder prepared for him by Mr. Martindale, and which produced a fairly good result. Models of the case were also exhibited.

Mr. WOODHOUSE showed a model of a case of fracture of the bicuspid region as the result of a blow on the chin. The patient was a boy aged 14, who in playing football was violently struck on the chin by the head of another boy, the bicuspid on the right-hand side of the mouth having the inner cusps knocked off, while the left-hand bicuspid was completely fractured through the pulp chamber. The boy suffered a good deal of inconvenience, and the teeth were removed. The curious point was that a week after the accident, though he had received so severe a blow, there was no indication of it on the face.

Mr. C. F. RILOT also brought forward a case of football accident, occuring to a man aged 30, who, when playing at football, received a kick in the mouth. On examination the two upper central incisors were loose, elongated, and leaning somewhat inwards. Being fractured they were extracted, the coronal portion coming away quite distinct in each case from the apical portion. The fragments showed distinct evidence of absorption, the apical portion of the pulp being expanded into a large fleshy mass. The patient volunteered the remark that he had had an exactly similar accident two years previously. The teeth had been painful for a time, but that passed off, and beyond a slight elongation, they had been quite right till the second accident. It was evident, on looking at the specimens, that the fracture must have taken place at the time of the first blow two years ago, and the interest of the case lay in the fact that the teeth should have been perfectly comfortable for two years under those conditions.

Mr. CHARLES S. TOMES read a paper entitled "Notes upon Enamel and Dentine." The author did not read it in full but gave a description of his experiments and the investigations he had undertaken, and described the results which he had so far obtained. The full paper will be published in the *Transactions of the Odontological Society*, and some special observations on enamel are about to be published in the *Journal of Physiology*. Mr. Tomes was stimulated to undertake this investigation by a study of the papers of Dr. Black which appeared last year in the *Dental Cosmos*.

One of the objects of Dr. Black's experiments was the determination of the cause of the great difference between the teeth of different individuals and of different teeth in the same mouth, as to quality and consequent resistance to the attacks of caries. Experiments in this direction had previously been made by Dr. Galippe, who showed that the milk teeth have a lower specific gravity than their successors, and also that the roots of teeth have a lower specific gravity than their crowns. Dr. Galippe did not, in his experiments, determine the specific gravities of the different tissues, but of the tooth as a whole, Dr. Black examining transverse slices taken from the necks of the teeth, and therefore containing but a small proportion of any tissue other than dentine. He compared by this method teeth from mouths where caries was very general, with those from other mouths where they appeared particularly resistant to its attacks. The slices taken from such teeth in the manner explained above were dried at a temperature of 100° C., and incinerated in a platinum crucible, the loss of weight being taken as organic matter. While criticising the technique adopted by Dr. Black as not calculated to give the most perfect results, Mr. Tomes in his paper considers that the general conclusions may be looked upon as quite trustworthy.

Taken without the decimals, Dr. Black's results give as a general average 72 per cent. of lime salts, and showed no deficiency of those salts in the teeth of bad quality.

Mr. Tomes, in his experiments, in order to avoid as far as he could all possible sources of error, sawed across the teeth at the neck and drilled the dentine out with a spear-headed drill, being careful to obtain shavings of dentine only for examination. These turnings were dried in a constant temperature for over eight hours at 100° C., weighed in a platinum crucible, and ignited and weighed again.

The ash was then moistened with ammonium carbonate, in order to restore any carbonic acid which might have been driven off by ignition from the carbonates present, dried and weighed again. The general result was an average of 72·5 per cent. of lime salts. In these experiments the turnings remained from first to last in the crucible, so that there was no chance of loss, and the amount of dentine obtained from each tooth was about twice as much as the quantity experimented with by Dr. Black, this again, of cause, tending to diminish error. In an experiment made by the author to check certain results of Dr. Black's, which showed that teeth taken from the same mouth differed more in their percentage of lime salts than teeth of good and fair quality from different mouths, he did not come to the same conclusion, but from an examination of several jaws found that the corresponding teeth on opposite sides of the mouth gave the same results in every case.

From a series of analyses made by the author, and given in the paper, one point is distinctly brought out, *i.e.*, that the dentine of the molars and bicuspids is more highly calcified than that of the incisors and canines. The averages of the different analyses give :—incisors and canines, 71·5 ; molars, 73·2.

Only one set of distinctly imperfect teeth was examined, but this gave lower percentages for all the teeth than the other more perfect sets, thus, so far as a single case can be of value, not confirming Dr. Black's conclusion that teeth of poor quality are as highly calcified as those of good quality.

An examination of the teeth of the elephant showed that the ivory of the tusk has a very low percentage of lime salts, while the dentine of the elephant's molar is highly calcified.

Another series of experiments was undertaken in which the lime salts were separated from the organic matter by the careful use of dilute acids. The results did not at first appear to tally with the ignition experiments, and this discrepancy was found to be due to water in chemical combination, which could not be dried out, the conclusion at which the author arrives being that the calcium phosphate holds in chemical combination two or three equivalents of water.

The analyses of dentine, as usually stated, are thus shown to be incorrect, the water in chemical combination being set down as organic matter. The quantity of organic matter has consequently been over-estimated. As the result of his experiments with enamel Mr. Tomes has established the fact that enamel is practically an inorganic tissue, the small percentage which has usually been set down as organic matter being, in fact, mainly water, the amount of organic matter being far too little for quantitative estimation.

When enamel is calcified its structure is but little altered ; after being brought to a bright red heat the prisms remain unaltered as to size and form—they show, however, a slight granularity. A comparison of enamel with the shell of pinna (a large mussel) showed that the very conspicuous mass left after decalcification only amounted to 1 per cent. of the weight of the shell, thus confirming the conclusions as to enamel. The pinna shell consists of crystalline prisms of calcic carbonate, containing no organic matter in themselves, but deposited in a honeycomb of connective tissue, and the author concludes that it is quite conceivable that the lime salts may be deposited in the interior of the enamel cells, their exceedingly delicate walls playing the same part as the connective tissue honeycomb in the shell, and the comparative absence of organic matter in the finished product may be due to their exceeding tenuity, as well as to the absence of organic matter from the prisms themselves, which are purely crystalline.

This view, and the analyses given in the paper, will be seen to be quite at variance with the descriptions of enamel given by Heitzmann and Bödecker. In conclusion, the author throws out a suggestion that the difference between good and bad teeth may reside principally in the enamel.

The paper was illustrated by lantern slides, some of which were photographed by the author, but other and more difficult by Mr. Mummery, who had succeeded in bringing out their points after the author had failed to do so. Some very beautiful slides of enamel made by Mr. Leon Williams, and lent by him, were also exhibited in illustration of the resemblances between pinna shell and enamel.

Mr. LEON WILLIAMS said he believed that Mr. Tomes' analyses of dentine and enamel were the most careful and critical that ever had been made. He was gratified also because it gave a little added feeling of delight to be able to say, "I told you so." During the past fifteen years he had frequently affirmed the position which Mr. Tomes was able to take after analysis. For a long time he (Mr. Leon Williams) stood almost alone in criticising what he regarded as the very unwarrantable claims made by some with regard to organic matter in enamel. The results of Mr. Tomes' analyses opened up a very wide field for investigation. They would certainly have to modify the views which had been held with regard to the causes of decay in teeth, and these analyses were in line with Dr. Miller's conclusions, that they should look for those causes very much more to the environment of the teeth than to the inherent structure. It would probably be regarded as heterodox if he were to say that the most imperfectly formed tooth, so far as inherent structure went, in a perfectly healthy mouth, would never decay, and yet that was exactly the conclusion to be drawn from Mr. Tomes' and Dr. Miller's work ; and that in an unhealthy mouth the most perfectly formed teeth would never be able to resist decay. If they were able to reach those conclusions they would have a very direct, practical bearing upon the whole treatment of caries of the teeth.

Mr. GOADBY said he had been very much interested in the paper, partly because of its extreme interest, and partly because he had been himself working on the structure of dentine. The result of chief interest was that in caries the micro-organisms were always in line in front of the caries, and that elastin was capable of being broken up by micro-organisms into mylo-acetic acid ; so that they had from the micro-organisms, given elastin, an acid produced apart from the production of acid in the mouth. He had isolated a few micro-organisms from teeth and got a re-action, showing probably that there was mylo-acetic acid present.

Mr. MUMMERY said the paper was one of great interest, as showing some very important points as regards the structure of enamel, and possibly indicating that the enamel was formed by secretion, and not formed in the cells. It might possibly be that it was secretion, and that the lime salts were deposited primarily by enamel cells. The secretion view had been held by many as to dentine, and Mr. Tomes' discovery did not seem to upset the secretion view. Of course, the point about the molars being more fully calcified than the other teeth was a matter of great interest, and was very surprising, considering all the conditions of the mouth.

Mr. C. S. TOMES, in reply, said it was exceedingly interesting to hear of the action of the bacteria upon elastin, breaking it up into a mylo-acid, because, knowing how exceedingly resistant a substance elastin was to weak acid, it had always been difficult to understand exactly how it did get dissolved. Dr. Miller accounted for it by a peptonising action on the part of some of these bacteria. Mr. Mummery had referred to the question whether the formation of enamel was due to a conversion or a secretion. Supposing that his (Mr. Tomes') guess was correct, that the calcium phosphate was deposited inside the enamel cells, it still might be regarded either as secretion or conversion.

A vote of thanks having been passed to the contributors of Casual Communications, and to Mr. C. S. Tomes for his paper, the Society adjourned.

Dental Hospital of Edinburgh.

THE fourth annual general meeting of the Incorporated Edinburgh Dental Hospital and School took place on January 16, at 31, Chambers Street, Mr. W. Bowman MacLeod, the Dean, in the chair. The Treasurer's statement showed an income of £834 4s. 10d. (including special contributions £345, and hospital fees £454), and an expenditure of £1,333 10s. In consequence of heavy payments for alterations on the buildings and furnishings the expenditure had exceeded the income. At the end of last year the value of the property, less the debts, showed a surplus of £607 1s. 11d. On this occasion there was a separate fund—the MacGregor Medal Fund—having at its credit £152 18s. The report was approved. The Directors' report showed that the operations in 1892 were 8,900; in 1893, 11,600; in 1894, 17,100; and in 1895, 16,550. The students for the same years numbered 30, 37, 52, and 47 respectively. Mr. Hepburn moved the adoption of the report, giving it as his opinion that it was very satisfactory, and stating that it showed that there was a vast amount of work performed by all connected with the institution. The report was adopted, and the following were appointed directors:—Mr. Cox, M.P.; Mr. R. L. Stuart, W.S.; and Mr. R. K. Inches. Mr. Bowman MacLeod was granted leave of absence for three months (in connection with a visit which he and Mrs. MacLeod are to make to South Africa), and Mr. Andrew Wilson was appointed to act as Dean of the School during that period.

The Brighton Dental Hospital.

THE Annual Meeting of this Hospital was held at the Brighton Dental Hospital on January 31.

The Report stated that the operations of the institution during the past ten years fully justified its establishment. The number of cases had increased every year, up to the total for last year of 3,053, and, owing to the careful supervision exercised, it was a very rare circumstance for the benefits of the hospital to be extended to an applicant who, from social position, ought to have sought the aid of the private practitioner. The accounts, which were submitted by the Honorary Secretary, Mr. J. R. Gwatkin, showed that the expenses were £157, and that the subscriptions and donations amounted to about £110. The deficit was £26 5s. 5d.

The adoption of the report was moved by Sir JOSEPH EWART, the President of the Hospital, and seconded by Mr. E. A. T. BREED, a member of the Committee.

Sir Joseph was re-elected President, after hearty recognition had been made by the Honorary Treasurer, Mr. John Wood, L.D.S., of the enduring interest he took in an institution he had helped to found. The vice-Presidents and Committee were elected and thanked, and a hearty vote of thanks was extended to the Medical Staff:—Messrs. E L. Norris, L.D.S., C. E. Peckover, L.D.S., S. Read, L.D.S., J. F. Rymer, M.R.C.S., L.D.S., F. V. Richardson, L.D.S., A. B. Stoner, L.D.S., and Mr. W. R. Wood, L.D.S.; as well as to Mr. William J. Stephens, L.R.C.P., for his daily attendance as Surgeon Administrator of anæsthetics; to Mr. John Wood, Honorary Treasurer; Mr. J. R. Gwatkin, Honorary Secretary; Mr. F. J. Bevis, Honorary Solicitor; and Mr. F. G. Clark, Honorary Auditor; and to the Press.

The motions were spoken to by Messrs. J. F. RYMER, ISAAC WELLS, D. E. CAUSH, L.D.S., BREED, MACGUIRE and Sir JOSEPH EWART, the last-named of whom, in adding his tribute to the Medical Staff, said that wherever one went in Brighton or in the surrounding villages, one found that amongst the poor the Dental Hospital enjoyed the highest repute.

Birmingham Dental Hospital.

THE thirty-sixth annual meeting in connection with the Birmingham Dental Hospital was held on Jan. 23 at the Council House; the Mayor (Councillor J. Smith) presiding. The annual report showed that the work of the hospital had largely increased, especially in the department for the preservation of the teeth. The financial statement showed a balance in hand of £116 9s. 2½d., after clearing off the adverse balance of £48 19s. at the end of September, 1894. The appeal for funds which was issued in December, 1894, had not resulted in as large an increase of the subscription list as was anticipated, the sum of £43 11s. 6d. only being received. The Mayor moved the adoption of the annual report and balance-sheet, and Mr. J. W. Wilson, M.P., seconded the motion, which was carried. Mr. J. A. Jones moved a vote of thanks to the honorary hospital staff and the officers for the zeal and ability with which they had performed their duties during the year. This was seconded by Mr. J. M. Smith, and carried. Mr. Huxley moved the appointment of the following officers:—President, the Mayor; Vice-president, Lord Calthorpe; Hon. Treasurer, Mr. J. W. Wilson, M.P.; Hon. Secretary, Mr. W. A. Addinsell; and specially referred to the perseverance and great tact Mr. Addinsell had shown in discharging the duties of his office. He said that in addition to the aid the hospital had rendered to the suffering poor, one of its distinguishing features was the position it had taken as a branch of the Medical School. Mr. Donagan seconded the motion, which was carried. On the motion of Mr. W. Thomas seconded by Mr. Barrow, Messrs. F. R. Howard, W. Thompson, J. Naden, J. Mountford, J. E. Parrot, and P. T. Naden were elected Hon. Assistant Dental Surgeons, and Mr. P. Bates Hon. Auditor. A vote of thanks was accorded the Mayor on the motion of Mr. SYDNEY HAYNES, seconded by Mr. C. A. PALMER.

A Substitute for India-rubber.

It seems possible, according to *Invention*, that india-rubber will have another competitor. Mr. Ellerhausen has discovered that the inspissated juice of a plant, name unknown, but said to occur in abundance in certain districts of the tropics, and hitherto considered of little or no value, can be converted into a substance closely resembling india-rubber. It is claimed that the new substance is difficult to distinguish from the real article, that it is resilient, pliable, a good insulator for electricity and that it vulcanises well. A small company has been formed to work the process, and has established a factory in London.

Abstracts.

Pyæmia as a Sequela of Pyorrhœa Alveolaris.

By A. E. VERRINDER, L.D.S., Victoria, British Columbia.

THE following case of recent date may be regarded as a typical representation of the most persistent form of this disease :—

A gentleman came under my care some three weeks since, who had been for some two years past, under treatment by different members of the medical profession. They had all treated him for the same malady —malaria—and his last physician had ordered a complete change, in order to save the patient's life.

Taking advantage of his vacation to have a troublesome molar attended to and filled, he consulted me to repair the wrong. Making a careful examination of the entire arch, which consisted of an unbroken denture, I found very little requiring attention. Remarking on the general state of his bad health, and noticing his cachectic condition, I touched the right chord, and he recited his miseries of the past two years, and his looks did not belie his words, he being resigned and prepared for the worst. On further inspecting the oral cavity, I found a marked receding of the gums, and, probing, found a diseased process almost in its entirety. On pressure, a foul, unhealthy pus exuded—the first intimation I had of any odour. My suspicions now being aroused, I questioned him minutely in regard to the symptoms, and I found a febrile condition, with coated tongue and a temperature of 103°. He complained of headache, constipation, dizziness, sleeplessness, loss of appetite, and at times during the last twenty-four hours, nausea. Noting the conditions, I told him he was suffering from the absorption of this septic matter. He accordingly concluded to try my suggestions, with the result that after a vigorous and stimulative treatment—both systematic and locally—combined with proper antisepsis, he began to improve rapidly, and a week since he journeyed home, expressing himself a strong and healthy man for the first time in two years.

At this writing, I have received no further communication, so conclude all is favourable. No doubt, from the slovenly way in which he had attended to the hygiene of his mouth, matters had gone from bad to worse, and having almost a perfect arch of teeth, considered he had no use for the services of a dentist, while the absence of any severe local symptoms led his physicians astray, and from the resulting absorption of this septic matter, blood-poisoning had actually set in. —*Dominion Dental Journal.*

Itching of the Mouth.

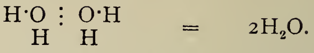
In the *Deuscthe Medizinal-Zeitung* there is an abstract of an article entitled Pruritus Oris, by Tommasoli, published in the *Giornale Italiano delle malatie e della pelle*, 1894, No. 3. The author relates the case of a peasant woman, 33 years old, without anything remarkable in her history, who for four years had suffered with an itching and biting sensation in the cavity of the mouth, which compelled her to bite her-tongue and to compress the mucous membrane of the cheeks between her teeth. The affection was aggravated in paroxysms, and occasionally she was entirely free from it. The chief situation of the abnormal sensation was in the tongue, which often bled from severe bites. Examination of the cavity of the mouth showed on the mucous membrane of the cheek two whitish, almost horizontal and symmetrical stripes, which were nearly as long as the alveolar processes, to which they corresponded roughly in their course, and of which a slight impression was to be seen. Beginning at the last molars, these stripes reached almost to the angles of the mouth. The epithelium on these stripes was moist and soft, but not apparently destroyed. The whole looked like a linear zone of œdematous swollen mucous membrane. Yet, on palpation, the stripes felt like cords, indolent, and not yielding in the slightest to digital compression. All the rest of the mucous membrane, as well as the tongue, appeared sound. The author believes that this was a chronic paroxysmal paræsthesia of the buccal mucous membrane, giving rise to actual changes in those parts of the mucous membrane that were most affected. He gives the name pruritus to this affection. —*Dental Register*.

Hydrogen Peroxide.

By a series of chemical, physical and especially spectrometric investigations, J. W. Brühl has been led to the conclusion that hydrogen peroxide must be looked upon as containing tetratomic oxygen, and that its constitutional formula is $H{\cdot}O \vdots O{\cdot}H$. The theory of the tetratomicity of oxygen is in accord with the views of H. Rose as to the compounds termed by him *quadrantoxides*, as Ag_4O, &c. The behaviour of the compound of HCl and methylic-ether, $HCl(CH_3)_2O$, lately discovered and studied by H Friedel, furnishes further argument in support of the tetratomicity of oxygen in a free state. In support of his theory the author refers to the electrolytic formation of H_2O_2 from nascent hydrogen and molecular oxygen, and its instantaneous decomposition by nascent oxygen, Further evidence is furnished by the easy decomposition of H_2O_2 into water and molecular oxygen, which may be represented as taking place in two phases.

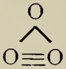
$$\text{I.}\qquad H\cdot\boxed{O : O}\,H \quad = \quad H + O : O + H$$

II.

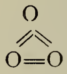


$$\begin{matrix} H\cdot O & : & O\cdot H \\ H & & H \end{matrix} \quad = \quad 2H_2O.$$

The intense reducing property of H_2O_2 is especially characteristic, and is probably due to the very loose attachment of the atoms of hydrogen by means of supplementary valencies. It is also probable that ozone has a similar constitution. Its formula would then be—



or, perhaps,



A further hypothesis is suggested by the author in the case of carbonic oxide, the only compound in which uncombined carbon-valencies have had to be admitted hitherto. This would no longer be necessary if the tetratomicity of oxygen can be assumed. The old theory of uncombined carbon-valencies is inconsistent with the spectrometric behaviour of CO, as well as with its small faculty of combination with chlorine or with the other halogens. These facts are more in accord with the constitution, being C : O. Such an hypothesis involves, of course, the existence of unsaturated oxygen-atoms in all other organic compounds which contain an odd number of oxygen-atoms. There is no reason why this should not be admissible, as triatomic phosphorus, and nitrogen-atoms, and diatomic sulphur-atoms, which undoubtedly are unsaturated, are often met with in organic compounds. (*Berichte*, xxviii., 2842).—*Pharmaceutical Journal.*

The Best Investing Material for Plates where Gold Soldering is to be Done.

In the *Dominion Dental Journal*, Dr. J. A. Bazin, in referring to this subject, says:—"Four things have been commonly used as an investment (with plaster) in soldering teeth on gold, platina, or other metal, each one having its friends, clean river sand, fine silex, fine soapstone and shredded asbestos. My preference has always been in favour of sand, two-thirds to three-quarters sand to one of plaster. In soldering whole sets, or when much of the arch is enveloped to prevent warping, I favour, at least, nine-tenths sand for filling the ridge portion. The special advantage of this material is that it is a good conductor and allows the heat to carry well through the mass of investment. Asbestos holds together somewhat better, but it takes much longer to heat up. Silex is apt to fuse on to the tooth, if strong heat is put on a certain point, and soapstone is less of a conductor than either. In the fifties I often cut fine binding wire in half-inch bits, and laid them as a second investment to prevent cracking in special cases, and for full sets had iron hoop rings for the same purpose; but then we had not the appliances that can be obtained at the present time."

A Method of Avoiding Scars after Operations on the Face and Neck.

To avoid disfiguring scars after operations on the face and neck, Dr. C. Beck, Professor of Surgery at the Post-graduate Medical School of Chicago, has recourse to a procedure, which is said to be much more convenient than that recommended by Dr. J. Dollinger, Professor Extraordinary of Surgery at the Medical Faculty of Budapest, for the subcutaneous extirpation of tubercular glands of the cervical region (*The Medical Week*, 1894, p. 445).

Before making his incision in the skin, Prof. Beck cuts, in the region to be operated upon, an epidermic flap by Thiersch's method, with this difference, however, that it is left adherent by one side to the neighbouring parts, being folded back over these during the operation.

In the region thus deprived of its epidermis, the sub-epidermic incision, necessary for the operation, is made. When the operation is finished, the wound is closed by a few buried catgut sutures (if the wound is small it is not even necessary to suture it), after which the epidermic flap is carefully spread out so as to cover it thoroughly.

By this procedure, Prof. Beck has been enabled to extirpate glands and small tumours, and even to operate for wry-neck, with scars which are barely perceptible even on close observation.—*The Medical Week.*

Chronic Nasal Obstruction.

Mr. Mayo Collier in a recent address, said that nine out of ten civilised persons have some irregularity or abnormality of the nose, and that four out of five savages, aborigines, or uncivilised beings have normal nasal cavities. The speaker is of opinion that such deformities are brought about by atmospheric pressure in association with partial obstruction, and he disagrees with Trendelenberg, who has pointed out the frequent association of highly arched palates and crowded irregular teeth with nasal obstruction, and believes that the palate pushes up and deforms the septum. Mr. Collier asks what pushes up the palate, and insists that the same incontestable force (atmospheric pressure) that pushes in the septum must, of necessity, push in the hard and soft palate, and there is no help for it. It would be contrary to the laws of nature if it were not so. Will not this theory account for the saddle-shaped arch in mouth-breathers?—*British Journal of Dental Science.*

Reviews and Notices of Books.

DENTAL MECHANICS.—Part II., THE DENTAL LABORATORY. By HARRY ROSE, Licentiate in Dental Surgery of the Royal College of Surgeons of England and Lecturer on Dental Mechanics at the National Dental Hospital. London: J. P. Segg & Co., 289 and 291, Regent Street, W.

THIS volume is a further valuable contribution to the literature of Dental Mechanics from the pen of Mr. Harry Rose. Details of the Dental Laboratory, with regard to its fittings and the instruments employed therein, constitute, as a rule, somewhat dry reading, and are moreover, often superfluous to the experienced, and enigmatical to the novice; but there is something so genuinely practical about Mr. Rose's account of the Workroom and its contents that anyone reading it with intelligence cannot fail to glean many useful hints. The Dental Laboratory pictured by Mr. Rose is no fanciful, ideal chamber, beyond the reach of the ordinary practitioner, but a wholesome, work-a-day place affording every facility for carrying out any branch of the art of mechanical dentistry. Furnaces, lathe-heads, tools of all kinds and materials used in the work-room are carefully described. The latter part of the book is devoted to the subjects of impression taking, setting up of bites, casting, and the description of the various metals employed in mat work. We refrain from a more detailed criticism of this useful book, and look forward to further contributions from the author.

Obituary.

Mr. George Gregson, M.R.C.S., L.D.S.

IT is with deep regret we have to record the death of an old and much respected member of the dental profession, Mr. George Gregson, M.R.C.S., L.D.S., which took place on January 17, at his residence in Harley Street, at the age of 75 years.

Some months previously Mr. Gregson exhibited signs of failing strength, evidenced in the early autumn by numbness in the fingers of the left hand and general loss of nerve power.

He gradually grew weaker, until he passed away last month without apparent pain or suffering. Throughout his somewhat lingering illness his old friends, Sir Benjamin W. Richardson, Dr. Charles J. Hare and Dr. Haward, were unremitting in their care and attention.

In the early days of the L.D.S. diploma, Mr. Gregson presented himself at the College of Surgeons and passed the necessary examination in 1862, and in the following year, having completed his studies at the Grosvenor Place and the Middlesex Hospital Schools of Medicine, he took the full membership.

At that time the Dental Hospital of London was in its infancy, but so rapidly increasing in usefulness that it became necessary to augment the staff, and to appoint six assistant dental surgeons to cope with the influx of patients to the institution. Mr. Gregson was elected one of these new officers, and from that time to the end of 1893 he retained his connection with the hospital, first as assistant, and eventually as senior dental surgeon. For a period of nearly thirty years he faithfully and conscientiously discharged the onerous duties his position demanded, amongst others occupying the chair of the Medical Committee for some time.

Mr. Gregson had also a long connection with the Odontological Society of Great Britain, his membership dating from the year 1857. From 1870 to 1873 he fulfilled the duties of secretary, and in 1884 he was elected a vice-president.

For some years he acted as Dental Surgeon to the Metropolitan Free Hospital, and was a Fellow of the Medical Society of London, and a Member of the British Dental Association.

Mr. Gregson will long be remembered as a kind and ever-courteous friend by all the old students of the hospital, with which he was so long connected. He was always ready, in a modest, quiet way, to further the interests of his profession, and was much respected by his co-workers.

Those to whom he was best known recognised him as a gentleman of refined tastes and instincts, and as one who, both in private and public life, lent a dignity to the profession of which he was for so long an active member.

Miscellanea.

The Dundee Prosecution.

In referring to this case the *British Medical Journal* remarks that "It is difficult to comment upon such a travesty of justice. It is often impossible to set the law in motion without finding sooner or later that penalties are withheld or inflicted in homœopathic doses by the presiding magistrate. In the Dundee case, the magistrate went out of his way, and by no means added to the dignity of his position, by treating all qualified men as simply monopolists. When will the law recognise that the Dental Acts and the Medical Acts were especially framed to distinguish between the qualified and the unqualified, the properly educated and the ignorant? It was not for the purpose of promoting a monopoly that these Acts were passed, but for the safety of the public from uneducated and untrained pretenders to the healing art in its various branches."

Alveolar Sarcoma of the Soft Palate.

Alveolar sarcoma of the soft palate is so rare that the notes of the case described in the pages of the *Dominion Dental Journal* for January are worthy of record. The patient, aged 12, presented an arrow-shaped swelling on the left side of the palate. The swelling was two centimetres long, one and a half centimetres wide, and one-half centimetre high. It was deep red in colour, with a glazed appearance, which seemed like highly hyperæmic mucous membrane. The surroundings appeared normal, perhaps a little firmer than the opposite side. In the removal of the swelling it was seen that it had diffused into the loose tissues and muscles of the soft palate. The submucous expansion was about three times the size of its outer surface. A large piece of the mucous lining of the nose had to be cut away. To cover the defect or wound, which was of the size of a twenty-five cent piece, the mucous lining of the soft palate and the greater part of the hard palate had to be made movable by the Langenbeck operation on the left alveolar margin. Recovery was uninterrupted. Microscopical examination showed accumulations of large epitheloid cells, separated by slender walls of connective tissue; this structure being characteristic to alveolar sarcoma.

Pulp Mummification.

In a communication to a recent issue of the *Cosmos*, Soderberg, of Sydney, Australia, contributes an interesting article on pulp mummification. After experimenting with the preparations recommended by Dr. Witzel and Dr. Miller, he has come to the conclusion that in his hands the following gives the best results :—

Dried alum	ʒj.
Thymol	ʒj.
Glycerine	ʒj.

Zinc. oxid. in sufficient quantity to make stiff paste.

The contents of the pulp chamber are removed in the ordinary way, and the paste is then packed into the contents of the canals by using a Donaldson bristle. In ninety-seven cases treated in twelve months he has not a single failure.

Cirsoid Aneurism of the Neck, Face, and Floor of the Mouth.

At a meeting of the Academy of Sciences of Paris, held on Jan. 6, Prof. Lannelongue showed a patient, aged 28, who was suffering from a congenital tumour, which occupied the submaxillary region on the right side, extending in front beyond the midline so as to encroach upon the left side, and on the right cheek from the chin to the parotid region, following, as it were, in its development the body and the right ramus of the maxilla, and forming in front and under this part of the bone a projecting growth in the shape of a horse-shoe. The floor of the mouth on the same side, as well as about half of the tongue, were also invaded by the tumour, the characteristics of which were such as to show that it belonged to the group of cirsoid aneurisms. Being of exceptional gravity, it called for prompt relief. The sclerogenous method of treatment was resorted to as follows :—Injections of 3 or 4 drops of a 10 per cent. zinc chloride solution at various points of the tissue in the immediate neighbourhood of the tumour, no harm resulting even from penetrating into the tumour itself. Four sittings were devoted to these injections in and about the growth without any other serious complication than the formation of two sloughing ulcers on the neck.

The treatment was instituted at the end of May, 1892, and suspended at the end of July. When the patient left Paris in

August almost the whole of the tumour had been transformed into a dense mass; the functional disturbances had almost completely disappeared, and she could eat without difficulty. Atrophic sclerosis has been slowly developing since the treatment in almost the whole of the tumour, which is a sure sign of permanent recovery.

Pyrozone for Bleaching Teeth.

Referring to pyrozone as a bleaching agent, S. B. Palmer says: "It seems to be the only thing now known to the profession that will restore, with any show of permanency, a pulpless, and (therefore in a majority of cases) discoloured tooth to a shade approaching that of its ante-pulpless days. This property of pyrozone has been taken advantage of pretty generally, and discussed to that extent that nearly, if not quite, everything claimed for it is conceded."

New Anæsthetic Mixture.

Chloroform ten parts, ether fifteen parts, and menthol one part, used as a spray, is recommended in the *Medical Age* as an excellent and prompt means for obtaining local anæsthesia, lasting about five minutes.

The Degeneration of the Teeth.

In a communication to the Berlin Medical Society, Dr. Ritter reported that after having examined the teeth of 637 persons, more than half of whom were under fifteen years of age, he found only 4 with sound teeth. On this basis the number of individuals with their teeth in good condition is only about 6·2 per 1,000.

To Remove Oil of Cassia Stains.

The *Dental Review* states that, "Ozonized oil of turpentine will dissolve the stains produced by the oil of cassia when it is left too long in a tooth. Wash the cavity afterward with chloroform and repeat if necessary."

To Restore Rubber Dam.

A weak solution of ammonia water will, according to a writer to *The Dominion Dental Journal*, restore old weak rubber-dam and also take away the "rubber" smell so offensive to dentist and patient.

The Relief of Pain from Exposure of the Pulp.

A WRITER to *Items of Interest* suggests the following as useful for the relief of pain from exposure of pulp:—

Four per cent. solution of cocaine	...	20 parts.
Pure oil of sassafras	... ...	30 ,,
Melted carbolic acid	... ...	50 ,,

Shake the bottle before using, if the mixture is fresh.

Lectures at the Royal College of Physicians.

The Milroy Lectures before the Royal College of Physicians on the Value of Isolation and its Difficulties will be delivered by Dr. E. Seaton, on February 27, March 3 and 5. The Goulstonian Lectures on the Life History of the Malaria Germ outside the Human Body will be given by Dr. Patrick Manson on March 10, 12 and 17. The Lumleian Lectures on the Sequels of Disease will be delivered by Sir Dyce Duckworth, on March 19, 24, and 26. The lectures will be delivered at the College, at 5 p.m. on the days named.

Dental Hospital of Edinburgh.

We are asked to publish the following list of the Dental Staff of the Dental Hospital of Edinburgh:—

Dental Surgeons.—Mr. Malcolm MacGregor, L.D.S., Mr. Geo. W. Watson, L.D.S., Mr. J. S. Durward, L.D.S., Mr. James Mackintosh, Mr. J. S. Amoore, L.D.S., Mr. J. Graham Munro, L.D.S.

Assistants.—Mr. Frederick Page, L.D.S., Mr. John Turner, L.D.S. (leave of absence granted), Mr. David Monroe, L.D.S., Mr. Thos. Gregory, L.D.S., Mr. H. B. Ezard, L.D.S., Mr. Sewell Simmons, L.D.S., Mr. R. N. Hannah, L.D.S., Mr. Fred. J. Turnbull, L.D.S., Mr. J. Malcolm, L.D.S., Mr. Robert Lindsay, L.D.S., Mr. D. Baillie Wilson, L.D.S., Mr. Thos. A. Mackintosh, L.D.S., Mr. John A. Young, L.D.S. (*ad interim*).

Odonto-Chirurgical Society.

The fourth ordinary meeting of the Odonto-Chirurgical Society (Session 1895-96) was held in the Rooms, 31, Chambers Street, Edinburgh, on Thursday, February 12, 1896, at 7.30 p.m. Mr. J. Stewart Durward, L.D.S., president, in the chair. A casual communication was given by Mr. Fred. J. Turnbull (Edinburgh), entitled "Notes on a Case of Root

Trephining, with Subsequent History." The remainder of the evening was of a conversational character.

The Next Annual Meeting of the British Medical Association.

At a special meeting of the Council of the British Medical Association it was decided that the Annual Meeting of the Association should be held at Carlisle, on July 28, 29, 30, and 31 next, and the Council approved of the nomination of the Border Counties branch that Dr. Barnes, of Carlisle, be the President of the Association next year.

Appointment.

Lewis Osborn, L.D.S.Eng., to be Demonstrator of Operative Dental Surgery, Liverpool Dental Hospital.

Books Received.

The Internationale Journal of Microscopy and Natural Science, the Journal of the Postal Microscopical Society (third series, vol. vi., part 29).

The Students' Journal of the Liverpool Dental Hospital, The Manchester Guardian, The Every Hour Diary (Eason and Son), Handelingen van het Nederlandsch Tandheelkundig Genootschap, Medical Reprints, The Dental Practitioner, Odontologisk Tidskrift, Items of Interest, The Medical Press and Circular, The Chemist and Druggist, The Pharmaceutical Journal, L'Odontologie et la Revue Internationale d'Odontologie, The Birmingham Medical Review, The Dominion Dental Journal, The Ohio Dental Journal, Zahntechnische Reform, The Dental Cosmos, Guy's Hospital Gazette, The Dublin Medical Journal, The Liverpool Mercury, The Dental Register, Pediatrics, The Dental Review, Revue Odontologique, La Odontologia, Deutsche Monatsschrift für Zahnheilkunde, The Transactions of the Odontological Society of Great Britain, The Dental Digest, La Progrès Dentaire.

Letters and other Communications received from :—

Joseph A. Woods ; Lewes & Shorn ; J. Smith ; A Burlin.

Note.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 3. MARCH 16, 1896. Vol. XVII.

The Evolution of the Mammalian Tooth.

The paper and discussion at the March meeting of the Odontological Society was concerned with a subject, which, though neither practical in the coarser acceptation of the term, nor in any sense of immediate importance to us as dentists, is still one by virtue of which our branch of knowledge must always occupy a foremost place in science. In the long prehistoric periods, which are to that portion of time of which a history has been written, as the ocean to the drop, evidence of the things that lived and how they lived has mostly perished, but one organ remains indestructible and unchanged, namely, the tooth. Moreover, because in the lower orders of living things each animal in its life-time possesses and sheds many teeth, so the number of these evidences is often incalculable, and thus it comes about that odontology is a science of such supreme interest to those who would piece together the early history of living things, and our speciality acquires a dignity among the sciences commensurate with the importance of its subject matter.

The details of Dr. Tims' paper will be found elsewhere. It is sufficient here to touch upon its general bearing and the new reflections it contained. Commencing with a scholarly *resumé* of current teaching with regard to the origin of the mammalian dentition, the writer proceeded to unfold his own views, deduced to a large extent from observations recently carried out in the case of the dog. These investigations led him to the conclusion that the milk dentition was, in this case, and in that of man, preceded by an abortive series, which he termed "pre-milk," and the permanent one followed by a "post-permanent." Elaborating the observations of von Röse and others, he detected off-shoots from the epithelial lamina (from which the calcified series are agreed to be derived), which, though never or seldom arriving at a fuller development, existed as epithelial buds, and of which he showed lantern slides. These "buds" reminded, no doubt, many of his hearers of the objects described and figured by Malassez some years since and reproduced in this Journal, that writer describing them as relics of a series that had disappeared, or rather become abortive in the course of evolution, and attributing to them a *rôle* in the genesis of morbid growths which is foreign to the present subject. Undoubtedly such buds exist, and it seems reasonable and acceptable to science, as tending to bring the limited mammalian dentition more into line with that of its polyphyodont ancestors, to accept the interpretation placed upon them by Dr. Tims, but we think some hesitation is wise before acknowledging that as a tooth germ which never forms a cap of calcified tissue.

One question Dr. Tims asked of the Society which hardly received as full a reply as might be desired, in fact we think many of our readers might still wish to retail their experience bearing on the point in our correspondence columns, "Is there any reliable evidence of a post-permanent dentition in man?" Supernumerary and supplemental teeth are sufficiently common, and it is possible that the more the matter is looked into, the more obvious it will become that post-permanent teeth are frequently calcified and erupted.

The author went on to discuss the manner in which the complicated tooth might be supposed to have originated from the simple cone, the possible mode of fusion and formation, and in this department of the subject many of his audience must have felt the air cleared by the remarks that fell from Mr. Smith Woodward, who pointed out most lucidly, that among extinct fishes nature had evidently not confined herself to one method, and had, in fact, somewhat set at defiance the classification of the schools. Classification is, like fire, an excellent servant, but a terribly bad master, and there is a danger which every scientific man must feel, of attaching too great importance to rules made from the observation of a few creatures during an absurdly brief moment in an almost limitless period of time. Our rules and classifications are not like the laws of the Medes and Persians, for they alter from year to year. Nothing in literature is more pathetically worthless than the superseded text-book, and it should always be borne in mind that examination knowledge changes continually, and that it is only in a wise distrust of generalisation that safety lies. In looking back at the scholarly paper and its equally scholarly criticism by Mr. Smith Woodward, we feel grateful to the author for advancing the boundaries of our science, and proud that he did it at one of the meetings of our Society.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

Representative Board.

A MEETING of the Representative Board was held on Saturday, February 29th at 40, Leicester Square. Present : Mr. S. J. HUTCHINSON, President, in the chair; Mr. Breward Neale (Birmingham), Vice-president; Messrs. J. J. H. Saunders (Barnstaple); Hopewell Smith (Boston); F. V. Richardson (Brighton); G. Cunningham, R. P. Lennox (Cambridge); A. W. W. Baker, D. Corbett, G. M. P. Murray (Dublin); J. S. Amoore (Edinburgh); T. A. Goard, H. B. Mason (Exeter); J. A. Biggs, Rees Price (Glasgow); J. C. Storey (Hull); H. Blandy (Nottingham); I. Renshaw (Rochdale); F. Harrison (Sheffield); W. E. Harding (Shrewsbury); A. A. Matthews (York); J. Ackery, Storer Bennett, E. G. Betts, W. H. Coffin, W. Hern, L. Matheson, J. H. Mummery, W. B. Paterson, L. Read, S. Spokes, C. S. Tomes, F.R.S., J. Smith Turner, A. S. Underwood, J. Walker and W. H. Woodruff (London).

Letters regretting inability to attend were received from Messrs. F. Canton, J. T. Browne Mason, G. Brunton, J. Humphreys, A. E. Donagan.

The minutes of the last meeting were read and signed.

Certain business arising out of the minutes was transacted, and the TREASURER then presented his Balance Sheet for the year 1895, and read the report of the Journal and Finance Committee, approving of the same. In summing up the leading features of income and expenditure he quoted from a letter of the auditors upon the satisfactory character of the Journal account.

Mr. REES PRICE moved the adoption of the Report, and referred to the satisfactory state of the finances of the Association. He believed it was for the first time on record that the Journal had ever paid its way. He remarked upon the large sum on deposit and the small rate of interest, and asked if it could not be invested.

Mr. LAWRENCE READ seconded.

The TREASURER said the sum figured as on deposit had not been so for the whole year, and the question of a higher rate of interest would receive his attention.

The motion was carried unanimously.

The PRESIDENT called upon Mr. Blandy, who moved "That this Board accepts Sir Dyce Duckworth's invitation, and resolves to prepare such cases of advertising by registered dentists as it may deem infamous in a professional respect, and to present them to the General Medical Council in order that the advertiser may be dealt with."

Mr. Murray seconded.

Mr. Blandy said that he had written to 40 members of the Board; and 3 declining to be parties to the resolution. He fervently hoped 28 had replied, 8 promising support, 17 desiring to keep an open mind, to win over the 17 and to make friends with the 3. He assumed that the great majority of the members present were agreed that advertising was "disgraceful and infamous in a professional respect." Most of them had been working to place the profession of dentistry on an equality with the professions of law and medicine, and to this end education and registration under the Medical Council, together with the formation of professional and scientific societies, had been the means employed. Education, although progressing, failed alone, he thought, to cope with the practices of the unprofessional and the advertiser. He considered force of example and moral suasion an idle dream. Sermons were no use to people who would not listen to them. He differentiated the professional and unprofessional dentist as follows—the *one* a trained and capable man, and the other a fraud, or an individual of many promises and little performances; and it was their duty as members of an honourable profession to see that the public was protected from the ignorant swindler.

The General Medical Council has the power to erase from its Register the name of any one found guilty of disgraceful conduct in a professional respect, under Clause 13 of the Dentists Act; and under Clause 38 it has power to make, alter, and revoke its bye-laws, orders and regulations. Therefore, all the Board had to do was to prepare and send up suitable cases of disgraceful conduct, and the Council itself would consider and decide upon them. The Court of Queen's Bench and the High Court of Appeal had laid it down most clearly in the case of Partridge and in other cases, that in such matters of professional conduct the Council were the sole arbiters—were in fact a final Court of Appeal—and he believed that behind their judgment the courts of justice would not go.

Mr. Blandy then read extracts from the judgments of the Master of the Rolls, Justices Lopes and Fry in support of his contention. He next proceeded to discuss the action taken by the General Medical Council itself on the question of dentists advertising, and quoted the Resolution of the Council, dated May 28, 1894, viz., "That the attention of the Council having been called to the practice of advertising by certain dentists, it is hereby resolved that the issue of advertisements of an objectionable character, and especially of such as contain either claims of superiority over other practitioners, or depreciation of them, may easily be carried so far as to constitute infamous or disgraceful conduct in a professional respect." This Resolution, he contended, clearly demonstrated the Medical Council's willingness to deal with the question. At a previous Board meeting this Resolution was described as a weak and inoperative one, but he must point out that the Council was proceeding cautiously, as a correspondence with

THE BRITISH

Dr. RECEIPTS AND EXPENSES ACCOUNT FOR

GENERAL ACCOUNT.

	£	s.	d.	£	s.	d.
To Rent (one year)	30	0	0			
,, Secretary (Mr. Pink), Salary, one year ...	50	0	0			
,, Audit of 1894 Accounts	6	6	0			
,, Legal Expenses (16 cases)	77	14	0			
,, Expenses of Annual Meeting	138	16	7			
,, Stationery and Printing	74	16	11			
,, Postages, Directories, Registers, Gratuities and Sundries	31	11	4	409	4	10
ASSOCIATION JOURNAL ACCOUNT.						
To Printing and Publishing	619	17	10			
,, Reporting at Annual Meeting, Branches and other Societies	32	2	0			
,, Editor's Salary	100	16	0			
,, Sundries	6	5	7	759	1	5
				1,142	6	3
,, Balance forward, Surplus on General Account.	223	19	11			
,, ,, ,, on Association Journal Account	14	6	11	238	6	10
				£1,406	13	1

Dr. BALANCE SHEET,

	£	s.	d.	£	s.	d.
To Creditors:—Messrs. Bowman & Crawley-Boevey	74	6	6			
Mr. Paterson	18	14	6			
Treasurer—overpayment to Bank	1	1	0	94	2	0
,, Balance from last account	674	4	1			
,, Balance (Surplus) brought down	238	6	10	912	10	11
				£1,006	12	11

DENTAL ASSOCIATION.

THE YEAR ENDED DECEMBER 31ST, 1895. **Cr.**

GENERAL ACCOUNT.

	£	s.	d.	£	s.	d.
By Subscriptions	905	12	6			
Less One-third taken to Association Journal Account below	301	17	6			
				603	15	0
By Interest on Deposit at the London and County Bank				3	9	
,, Special Contribution from Midland Branch ...				26	0	0
				633	4	9

ASSOCIATION JOURNAL ACCOUNT.

	£	s.	d.	£	s.	d.
By One-third Subscription as above	301	17	6			
,, Sale of Copies	54	11	5			
,, Advertisements	416	19	5			
				773	8	4
				£1,406	13	1

JANUARY 1ST, 1896. **Cr.**

	£	s.	d.	£	s.	d.
By Cash at Bankers—on Deposit	800	0	0			
,, ,, Current Account	81	10	10			
,, ,, With Treasurer	2	1	6			
				883	12	4
,, Debtors: Messrs. Baillière & Co.	121	9	1			
,, Treasurer, for Subscriptions to be banked ...	1	11	6			
				123	0	7
				£1,006	12	11

We have written up the above statement and balance sheet from the books and vouchers of the British Dental Association, and seen the voucher for the amount on deposit, and certify they are correct.

J. W. BUTCHER & CO.,
Chartered Accountants and Auditors,
18, Bishop's Road, W.

February 15*th*, 1896.

Mr. Brudenell Carter, which he would read, showed. He then referred to the speech of Sir Dyce Duckworth at the National Dental Hospital dinner in December last, and emphasised a quotation from it, viz., "All you have to do is to bring them [advertising dentists] up with sufficient evidence to prove that their conduct is unworthy of the profession to which they belong.". Sir Dyce Duckworth represented the Medical Council in so far as he is the Chairman of its Penal Committee.

When in 1894 he brought the question of advertising forward, he believed that the Board did not appreciate the attitude of the Council, and mistook caution for weakness. But in view of what had since transpired the scene was changed. It was proved now beyond doubt that the Council had the power, and he, to-day, must have convinced them of its willingness to exercise it. It only remained, therefore, for the Board to consider its own attitude in the matter.

In conclusion, he would allude to the cases he had collected of advertising. He had selected two cases, and he trusted the Board would sanction their being submitted to the Business Committee, in furtherance of carrying out the idea embodied in his notice of motion, and which was now the Resolution before the meeting. He produced and laid upon the table a memorial signed by sixty-two dentists in favour of his proposition.

Mr. MURRAY presented a memorial, signed by thirty-two dentists in Ireland, members of the British Dental Association, in favour of action being taken to prepare and bring to the notice of the General Medical Council cases of advertising which fall within the scope of the Council's Resolution.

Mr. MURRAY, in seconding the Resolution, presumed that the arguments, both for and against, were generally well known. In the latter case he said no doubt potent arguments might be used against him, but he would remind them that it was extremely easy to adopt a policy of *laissez faire*. Many of them could do nothing if occasion demanded, and possibly also could do it very well. So long ago as seventeen years the Royal College of Surgeons of Ireland made a condition with respect to advertising, whereby its licentiates in dentistry contracted before receiving their diplomas, not to advertise. Wise heads in London were shaken, and it was said that the policy was risky, and could not be supported in a Court of Law. What is the result? Every tribunal in the country has upheld the validity and right of the Irish College in the matter of striking a licentiate off the roll for advertising. The great fault of the Representative Board is over-timidity.

He then alluded to the action of the Royal Veterinary College in the "Forge case," and read extracts from letters that he had received from members of the General Medical Council, and which, in so many words, endorsed the statements made by Sir Dyce Duckworth on the question of advertising.

From a correspondence he had had with one of the dental licensing bodies, which examines more candidates in a year than all the rest put together, he had been met with a haughty refusal to call its licentiates to account on a question of advertising. He was very strongly of opinion that it could not do better than follow its sister college, the Royal College of Surgeons in Ireland.

In conclusion, he said that they had heard a good deal about adequate proof, but surely they should be prepared to obtain it, and at least make an effort to do so. He did not believe in showing sympathy to advertising men. The lofty pretensions and meagre fulfilment of them by such men would have no sympathy with the deluded public. Let us not follow the bad example, which the greatest of all philosophers, satirists and humourists, has held up to the scorn and contempt of all ages, of that man who said, " There is a lion without, I shall be slain in the street."

Mr. REES PRICE informed the meeting that Mr. Blandy's motion had been discussed by a large meeting of the Scottish Branch recently, and it was resolved, *nem con.*, " That this Branch does not approve of Mr. Blandy's motion," and this decision had been formally sent to the Hon. Secretary, Mr. Paterson.

Mr. BLANDY suggested that the Scottish Branch might have been canvassed.

Mr. REES PRICE dissented most strongly.

Mr. RICHARDSON said that the Council of the Southern Counties Branch had considered the letter Mr. Blandy had addressed to him, and it had been decided "that Mr. Blandy's letter do lie upon the table."

Mr. RENSHAW referred to a case of advertising in the medical profession.

Mr. SPOKES was of opinion that it would be better for the British Dental Association to wait until the Medical Council had decided a case of advertising in connection with the medical profession.

Mr. AMOORE assured Mr. Blandy that the question of his motion had not been canvassed previous to the meeting of the Scottish Branch. The vote was the result of a free expression of opinion. He understood they were considering now the question of the registered dental practitioners advertising who had no diplomas; but it might be asked, should a L.D.S. advertise, and could the Medical Council take away the diploma of a L.D.S. for advertising? He thought it might be the ground of public sympathy if they did. He failed to see, that much good would be accomplished by striking a man's name off the Register, if the man could still practise and still advertise.

Mr. BIGGS wished to add his testimony to what had already been said as to the freedom of expression of the Scottish Branch upon Mr. Blandy's motion ; at the same time, he confessed he sympathised with Mr. Blandy in his present position.

Mr. MATHESON thought Mr. Amoore had made the General Medical Council out to be a very impotent body. He was of opinion that the Council, if it struck off a man's name from the Register for advertising, could proceed against him afterwards as an unregistered practitioner. He was in favour of sending up a case to the Medical Council.

Mr. HARRISON considered that acceptance of the Resolution before them meant advance, but they should be careful. The work should be undertaken by the Representative Board, and not by an individual.

Mr. SMITH TURNER did not desire to enter into the discussion, as he had on a former occasion fully expressed his views upon the question. He wished rather to throw out a suggestion. He assumed the great question in their minds would be: What will be the result of all this? If a man's name be taken off the Register for advertising, might he not appeal to a Court of Law? Therefore, he suggested that it would be well to obtain legal opinion as to what would be the result in such an event.

Mr. CUNNINGHAM asked if there was not already a good legal opinion on the point.

Mr. BLANDY said he believed so, and it was to be found in the "Reports of the Judges," extracts from which he had read to the meeting.

Mr. SMITH TURNER disagreed with Mr. Blandy as to the inferences he had drawn from the "Reports of the Judges" in a case of another kind. He only wished it to be made clear and certain that the General Medical Council would be sustained in its action by the Law Courts.

Mr. TOMES said he was not opposed to Mr. Blandy's motion. They wanted to gain something. Would they gain much if the Medical Council drew the line at what was "infamous and disgraceful in a professional respect," and only touched cases of a flagrant character? Another point which occurred to him seemed a little more difficult, viz., supposing the Medical Council decides a certain form of advertising "infamous and disgraceful in a professional respect" and another not, would they not weaken the hands of the colleges, like the Royal College of Surgeons in Ireland, which obtain some species of contract not to advertise from their licentiates? He thought that if a case were submitted a good one should be chosen.

Mr. CUNNINGHAM thought it difficult to forecast the future. He believed that even if the Medical Council differentiated advertisements, young men in training at the schools would be found to adopt the right course of non-advertising. "Quacks they would always have with them." It was a question as to what latitude might be allowed to young men commencing practice in a new district. On the whole he agreed with Mr. Smith Turner's suggestion.

Mr. STOREY presumed the matter would come before the Business Committee, and Mr. Turner's remarks would there receive the most careful attention. Personally he had no great faith in prosecutions. Still, as cases of advertising were so flagrant, as had been stated, he thought they should be submitted to the Medical Council.

Dr. WALKER proposed that Mr. Turner's suggestion be adopted, and moved "That a suitable case be prepared by the Business Committee, and Counsel's opinion obtained as to the legal powers of the General Medical Council."

Mr. RICHARDSON seconded.

Mr. NEALE thought that it was inexpedient at present to call upon the Medical Council to strike off advertisers in the profession of dentistry. He moved "that the debate be adjourned to this day six months."

Mr. SPOKES seconded.

Mr. WOODRUFF asked whether the Business Committee would only have Mr. Blandy's cases before them, or others?

Mr. BLANDY said he held in his hand a list of dentists advertising in the public press, and members would be surprised to learn that their number was comparatively very small to the general bulk of registered dentists. Mr. Blandy then asked permission to withdraw his resolution in favour of Dr. Walker's proposal.

Mr. MURRAY, as seconder, agreed, and leave being granted,

The PRESIDENT put Mr. Neale's motion of adjournment, which was lost, and Dr. Walker's Resolution was carried by 25 votes against 1, and as a substantive Resolution.

The President then read the replies which the branches had made to the letter of the Hon. Secretary in connection with a proposal to alter Bye-laws 15 and 18 as follows:—

Southern Counties Branch.—At a General Meeting held in Beckenham, 1896, it was resolved "That this Branch is satisfied with the Bye-laws as they now stand." The resolution was agreed to *nem. con.*

The Scottish Branch, at a General Meeting in Edinburgh, re-affirms its resolution passed at the Annual Meeting at Dollar, 1895, which is: to delete from Bye-law 15 the words "and the President and the Hon. Secretary for the time being of each Branch of the Association," and substituting "two members from each Branch of the Association who shall be *elected* at the Annual Meeting of the Branch they represent, and shall serve on the Board for the ensuing year, and shall be eligible for Annual re-election."

The Irish Branch's Council passed the following resolution, viz:—"That the Report of the Business Committee of June 11, 1892, to the Representative Board be adopted in its entirety as the opinion of this Council on the proposed alterations of the Bye-laws."

The Midland Branch's Council is "unanimously of opinion that the Branches of the Association should have the power of *electing* representatives to the Board instead of nominating them as at present; and it is in favour of the *adoption of the Report* of the Business Committee of June 11, 1892," with one exception, viz., that "the *Presidents* of Branches should *not* be included in the *ex-officio* list of Members of the Board."

The Metropolitan Branch at its Annual General Meeting, 1896, passed the following resolution, viz. : "That in the opinion of the Members of this Branch some alteration is necessary in Bye-law 15, empowering each *Branch to send up two* representatives to the Board, not necessarily being the President and Secretary of the Branch for the time being."

The Eastern Counties Branch at a Council Meeting held in 1892, upon the question of altering Bye-laws 15 and 18 resolved that : "this Branch decides to support the proposition before the Representative Board, viz., that Branches be given power to *elect*, not merely nominate their representatives as at present."

N.B.—The Hon. Sec. states that he has reason to believe that the Branch on the present occasion adheres to the above-mentioned resolution.

The Western Counties Branch, at a General Meeting held in Bath, 1896, passed the following resolution, viz.: "That each Branch *shall return three* Members to the Representatve Board, two being *ex-officio*, the President and the Hon. Secretary of the Branch, and one independent Member."

The Central Counties Branch at a General Meeting in February, 1896, passed the following resolution, viz. : "that the Central Counties Branch is of opinion that Branches of the Association should have a power of *electing* representatives to the Representative Board instead of *nominating* them as at present, and is in favour of the adoption of the Report of the Business Committee of June 11, 1892.

After a discussion as to the further action of the Representative Board in regard to this matter, a motion by Mr. STOREY, seconded by Mr. BIGGS, to the effect that the Board should act upon the reports from the Branches was withdrawn by permission, and it was proposed by Mr. CUNNINGHAM, seconded by Mr. STOREY and resolved, "That the reports from the branches *re* bye-laws numbers 15 and 18 be remitted to the Business Committee, with directions to embody the opinions expressed by the branches in new bye-laws or alternative bye-laws, and report to the next meeting of the Representative Board."

The HON. SECRETARY reported that the Business Committee had made arrangements for the Annual General Meeting to be held in the Examination Hall Buildings, Victoria Embankment, from August 12 to 15 next. The Board approved.

The PRESIDENT announced that his term of office as President of the Representative Board terminated in April next, and that he did not desire to seek re-election.

The meeting then adjourned.

Midland Counties Branch.

AN informal meeting of the members of this Branch was held at the Royal Station Hotel, York, on Saturday, February 15. About fifty members attended, and the meeting was presided over by Mr. J. C. STOREY, L.D.S., President.

The HON. SEC. read a letter which he had received from the Hon.

Sec. of the Dental Benevolent Fund, appealing to the members of the Midland Branch, who are not subscribers to the fund, to assist the operations of the Benevolent Fund Committee by becoming subscribers to the fund, and suggesting that local agents to the fund should be appointed in large towns and centres to endeavour to work up increased interest in the fund, and enlarging the subscription list.

It was decided to refer the letter to the Council, to discuss the question and formulate a scheme

Mr. J. T. JAMESON (Newcastle) exhibited the "Downie Furnace," and described the method of using it, and showed specimens of porcelain crowns which he had made by it.

In the absence of Mr. John A. Fothergill, of Darlington, the Hon. Sec. read a contribution from him on "Two Cases of Transplantation."* Plaster models were passed round showing the positions of the transplanted teeth.

Mr. WALTER GLAISBY (York) read a paper on "Necrosis of the Superior Maxillary Bone following Enteric Fever."

The usual votes of thanks to the President, and to the members who had contributed papers and casual communications, brought an interesting meeting to a close.

The amount contributed to the Benevolent Fund was £3 13s. 6d.

The following gentlemen were elected members at the Council meeting held in the afternoon—to the British Dental Association and Branch: William Storey, 27, Blake Street, York; to the Branch only: Francis Geo. Mordaunt, L.D.S.Eng., 76, Surrey Street, Sheffield; R. Ernest Wood, L.D.S.Eng., 12, Princes Square, Harrogate; Joseph Ainsworth Woods, L.D.S.Eng., 76, Mount Pleasant, Liverpool.

I. RENSHAW,
Rochdale. *Hon. Sec.*

Western Counties Branch.

A SPECIAL meeting of the Council of the above Branch was held at Bath, on Saturday, February 22, 1896, the President, Mr. J. J. H. SANDERS, in the chair. Also present were Messrs. J. C. Oliver, J. T. Browne-Mason, T. Taylor Genge, R. Rogers, G. C. McAdam, E. Apperly, W. A. Hunt, H. B. Mason, S. G. Yates, A. Kendrick, W. Helyar, E. L. Dudley, J. Laws and T. A. Goard.

Messrs. G. Thomson, E. Goodman and E. Brown wrote expressing regret at inability to attend.

The requisition signed by eight members and sent to the President, requesting him to call a special meeting was read, also the letter of the President summoning the meeting.

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* To be printed in a future issue.

After the consideration of two or three matters of importance, the Council proceeded to discuss the proposed alteration of the Bye-Laws 15 and 18 of the Association.

Mr. BROWNE-MASON moved "That each Branch shall return three members to the Representative Board, two being *ex-officio*, the President and Secretary of the Branch, and one independent member."

This was seconded by Mr. OLIVER.

Mr. HENRY B. MASON moved the following amendment:—" That this Branch does not approve of the direct election of members by the branches to the Representative Board.

" That this Branch approves of the present *ex-officio* representation of the branches, and suggests that the Board appoint a small Committee to enquire into the practice of kindred associations and see if any course can be devised by which the Board can be made more representative."

This was seconded by Mr. W. A. HUNT.

A long discussion took place in which all of those present expressed their opinions on the matter. On being put to the vote, the amendment was lost and the resolution was carried *nem. con.*

After the Council meeting the Branch meeting was held, but the only member, outside the Council, present was Mr. Royal. The business was soon finished, and the motion passed at the Council meeting was re-affirmed by a large majority.

T. A. GOARD.
Hon. Sec.

Southern Counties Branch.

THE next meeting will be held at Brighton on Saturday, April 18. Gentlemen willing to assist with demonstrations are requested to send their names to the Hon. Sec. as soon as possible.

FRANK V. RICHARDSON.

1, *Sillwood Road, Brighton.*

The Benevolent Fund.

The following contributions have been received since November 1, 1895:—

New Subscriptions.

Stevenson, H. Brooks, Byrom Street, Todmorden	£0	10	6
Moore, Geo. P., 29, Upper Merrion Street, Dublin	1	1	0
Headridge, David, 279, Oxford Street, Manchester... ...	0	5	0
Jameson, J. T., 4, Ridley Place, Newcastle-on-Tyne ...	0	10	0
Cromar, John, 15, Belmont Street, Aberdeen	1	1	0
Ezard, H. B., 18, Manor Place, Edinburgh	1	1	0
Goard, T. A., 6, West Southernhay, Exeter	1	1	0
Poock, E., 8, Buckingham Palace Road	0	10	6

Thacker, J. W., 40, Upper Fitzwilliam Street, Dublin	£2	2	0
Mackintosh, James, 42, Queen Street, Edinburgh	1	1	0
Heron, Arthur, 26, North Street, Elgin	0	10	6
O'Keefe, Hubert, 87, South Mall, Cork	1	1	0
Hazelton, Robert, 26, Westland Row, Dublin	1	1	0
Yeates, Geo. Wyclif, M.B., 25, Lower Baggot Street, Dublin	1	1	0
Corbett, Daniel, Jun., 12, Clare Street, Dublin	1	0	0
Bowden, W. J., 2, University Square, Belfast	1	1	0
Studley, T. F., 13, Westmoreland Street, Dublin	1	1	0
O'Duffy, John, 54, Rutland Square, Dublin	0	10	6

New Donations.

Irish Branch of British Dental Association, collected at meeting, November 15, 1895 (per G. M. P. Murray)	1	9	0
Whittaker, Geo. O., King's Chambers, 26, King Street, Manchester	1	1	0
Quinby, H C., 3, Princes Gate West, Liverpool	1	1	0
Matheson, L., 22, Wimpole Street, W.	1	1	0
Williamson, Dr. W. H., 15, Union Terrace, Aberdeen	1	1	0
McCash, J. M., 3, Balmoral Crescent, Queen's Park, Glasgow	0	5	0
McAdam, G. C., King Street, Hereford	1	1	0
Simmons, Sewell, 7, Abercrombie Place, Edinburgh	1	1	0
Southern Counties Branch of British Dental Association, collected at meeting, Oct. 26, 1895 (per J. H Redman)	2	13	0
Mackintosh, F. A., Daisy Bank, Ferry Road, Leith	0	10	6
Southern Counties Branch of British Dental Association, collected at meeting, Jan. 25, 1896 (per J. H. Redman)	2	1	6
Collett, Edward P., 7, Wilbraham Road, Chorlton-cum-Hardy, Manchester	0	10	6
Richards, F. W., 27, Paradise Street, Birmingham	0	10	6
Moore, R. H., 29, Upper Merrion Street, Dublin	5	0	0
Midland Counties Branch of British Dental Association (per I. Renshaw	3	13	6

Odonto-Chirurgical Society.

The Annual General Meeting of the Odonto-Chirurgical Society (Session 1895-96) was held in the Rooms, 31, Chambers Street, Edinburgh, on Friday, March 13, 1896, at 2.30 p.m., Mr. J. Stewart Durward, L.D.S., President, in the chair. Papers were read by Dr. Miller on "Case of Sarcoma of the Lower Jaw," and Mr. Oswald Fergus on "Abnormalities in the Relationships of the Mandible to the Maxillæ, with notes of a case of closure."

Original Communications.

What the Dentist can do for the State.*

By G. CUNNINGHAM, M.A.Cantab., L.D.S.Eng., D.M.D.Harv. (Cambridge).

It is a recognised fact that it is impossible for any man to live the life of an isolated individual, and therefore pain and suffering not only affects the individual himself, but, by impairing or destroying his capacity for work, has also a material influence on his social environment. The prevalence of decay of the teeth results in much pain and suffering, and hence it deprives the employer, but more especially the largest and richest employer, the State, of valuable services, including those of its best servants—its soldiers, and its sailors.

The growth of the science of Public Health is certainly one of the most notable features of our age, but the importance of the teeth as affecting health has not been adequately recognised. If you take up the health literature of the day, what do you find? It is mainly contributed by medical men, and you will find one of two things, either that the subject of teeth in a book on hygiene relating to the whole body is left out entirely, or, on the other hand, it is treated indifferently and inaccurately. You will see such things, for instance, as that under certain given conditions, for a gumboil there is only one possible cure, and that is extraction.

Now, the first proposition that I want to lay down is that the *rôle* of the dentist is not yet recognised. Even in such an important, useful and otherwise intelligently directed institution as the National Health Society, you will find that the managers have not even the intelligence to make use of the services of the dentist to supply them with adequate knowledge, but are satisfied with those of their medical expert. I referred to their latest book on Personal Hygiene, and find that it is not half as good as the work written by Dr. Carpenter some twelve years ago on School Hygiene, and, even there, great mistakes are made in dental pathology and surgery. Dr. Carpenter, however, had a clear-headed view of the matter, and he said that it was as essential that there should be a dental officer attached to every school as that there should be a medical officer. You find that Dr. Parkes, the great authority on hygiene, in a little hand-book on the Personal Care of the Health, one of the best tracts we have had on an important subject, takes the right view in regard to the importance of the teeth. And just as Mr. Hearn pointed out, so nearly a quarter of a century ago the great and far-seeing Parkes advised that the mouth should be washed out with water after every meal, stating that in that way even the working man might do something to save his teeth.

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* Read at the Annual Meeting of the Association, held at Edinburgh, August, 1895.

I would also call your attention to a book on the Nationalisation of Health, by Havelock Ellis, not a medical man, not a dentist, simply an intelligent, scientific observer. You will be glad to know that in that book there is a chapter entirely devoted to the dentist's place in health nationalisation. That chapter would never have been written, and would never have been in the book if it had not been for the Schools Committee of this Association. I venture to think that that is something which we may regard with a great amount of satisfaction. Further, I would call your attention to a new book and a new writer, trained in a different school. Dr. G. N. Stewart, when he came to write his book on physiology, could not avoid saying something about the teeth; not only the time and order of eruption and so on, but he felt bound to give his students a little word of advice, evidently based on personal experience. In his forthcoming work* he says: "That mastication may be properly performed the teeth must be sound; and that they may remain sound, they should be kept clean. For the particles of food that adhere to the teeth after a meal become the feeding-ground of bacteria, whose acid products injuriously affect the enamel, and often by corroding it expose the dentine. Entrance is thus afforded to the micro-organisms of caries, which, although they cannot live on enamel with its small proportion of organic matter, flourish upon dentine, and especially upon the contents of the pulp cavity when this is at length opened.

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* "New Manual of Physiology for Students and Practitioners," by G. Neil Stewart, M.A., M.D., D.Sc., published by Messrs. Bailliere, Tindall and Cox.

In addition to the deformity and the loss of distinctness in speech, which extensive destruction of the teeth entails, a vast number of cases of foul breath are entirely due to filthy and carious teeth. And since in most countries, bad breath subtracts more from the sum of human happiness than bad laws, there is, perhaps, even in this relation alone, no single hygienic measure that costs so little and yields so much as the thorough and systematic cleansing of the mouth. But the proper care of the teeth is by no means of merely æsthetic interest; it is of great importance for the maintenance of health. In many cases of severe and even serious dyspepsia, the cause of the mischief lies no deeper than the mouth, and the patient needs, not physic for his stomach, but filling for his carious teeth. And although no physician at the present day can take all medicine for his province as Bacon took all knowledge, every man who busies himself with the treatment of alimentary diseases (and how few diseases are not in some degree alimentary?) should know enough about the teeth to be able to tell when a patient has mistaken the doctor's door for the dentist's." The proof sheets as to the teeth having been submitted to me for revisal, I returned them and congratulated the professor of physiology that he had had the intelligence to add those pithy remarks to his more purely scientific work.

Now I want to show how far the care of the teeth is a State question. The State cares very little for what we may call the trade interests of either doctor or dentist. No association can hope to obtain any modification of existing conditions unless it is prepared to prove that what it seeks is for the advantage of the people. In this there is no difficulty, but if the Association remains reticent from the fear of the imputation of mercenary motives, then the difficulty seems all but insuperable. Isolated action has achieved good results, but it should be enforced by corporate action if our opinions as expressed in general meeting after general meeting are more than mere empty platitudes. It almost seems a hopeless case to endeavour to arouse enthusiasm among dentists, and perhaps it would be much better to address the public on such a question. To do this most effectively, the movement should go forward, strengthened and supported as it ought to be by the intelligent members of the profession, because, when

I ask what the dentist can do for the State, there is a distinction in what I mean by the word "dentist," and I take as the type of the dentist that of the British Dental Association member.

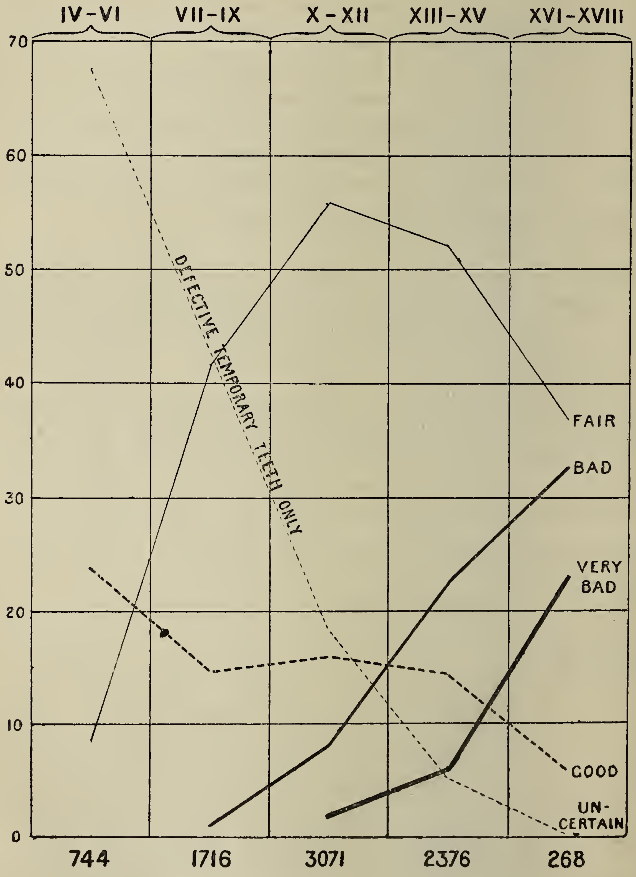
Now, in order to bring our question home, we must prove our position. We have taken, as you know, a kind of census of the teeth of the rising generation. I think it is a pity that that census should be allowed to, I might almost say, dwindle into insignificance, as it seems to have done from the lack of helpers and supporters; on the supposition, I presume, that sufficient statistics have been already obtained. The statistics are quite strong enough in certain directions between certain ages, but we want more information with regard to younger children, and what is far more important, we want statistics of the older children and young adults.

Table B.—Showing the Relative Ratio per Hundred Children having Sound, Defective Temporary Teeth, and Defective Permanent Teeth, classified quaternarily, arranged in Triennial Age Periods.

Age Period.	iv.-vi.	vii.-ix.	x.-xii.	xiii.-xv.	xvi.-xviii.	Quality.
No. Examined.	744	1,716	3,071	2,376	268	8,175
Sound (no decay)	23·8	14·2	16·1	14·1	6·4	Good.
Defective Temporary Teeth only	67·4	43·3	18·3	5·1	0·1	Uncertain.
Defective Permanent Teeth						
1 — 4	8·8	41·5	55·9	51·9	37·3	Fair.
5 — 8	...	1·9	8·5	22·9	32·6	Bad.
9 or more	...	...	1·2	6	23·6	Very bad.
	100	100	100	100	100	

We want a body of men, able to trace out the further life history of the teeth of the average man and woman in order to bring home, what we know to be a fact, that if children are not attended to between the ages of 7 and 9 years, or between 10 and 12 at the latest, they must inevitably lose their teeth and have recourse to artificial and expensive

Diagram A.—Showing the Relative Ratio per Hundred Children having Sound, Defective Temporary and Defective Permanent Teeth, Classified Quaternarily and Arranged in Triennial Age Periods.



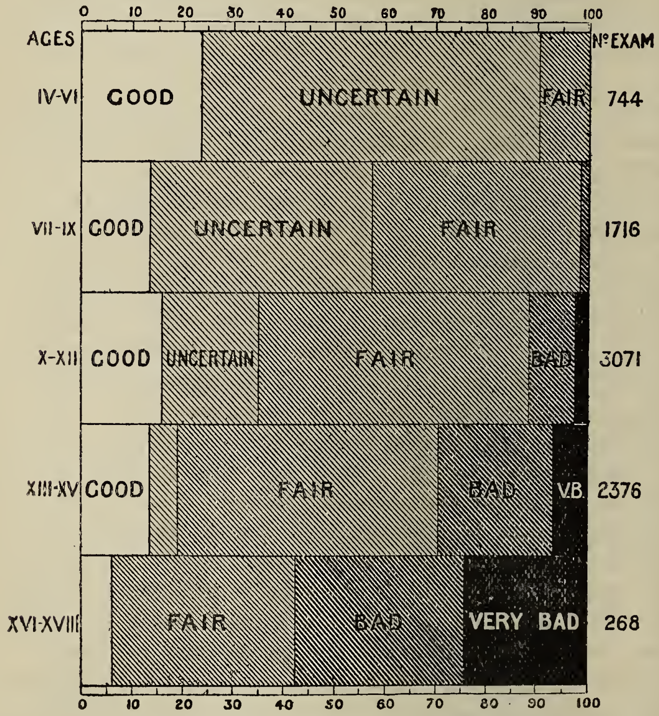
expedients, or go through life maimed in their powers of mastication.

The main facts of our collective investigation may be gathered from a careful study of table B, in which the general results of the examination of the teeth of 8,175 boys and girls in English and Scotch schools have been arranged in parallel columns, by grouping each three yearly returns together, from the age of 4 years onwards, and classified under divisions in each column, showing the average quality of the denture in each age period.

It may be somewhat difficult to thoroughly grasp all the details of such a tabular statement, and to fully appreciate the real significance of the various percentages, both in relation to one another in the same age period, and in contrast to one another in the several age periods. By setting out these figures on specially ruled paper, a series of curves may be formed, as in diagram A, which certainly makes their significance more clear. The decrease of the " good " class (sound, no decay), the early and rapid rise and the subsequent fall of the " fair " (1 to 4 decayed or lost permanent teeth), the steady increase of the " bad " (5 to 8 teeth decayed), and the later but abrupt increase of the " very bad " (9 or more teeth decayed), is obvious and instructive, since it demonstrates the inevitable increase of decay of the teeth as the age advances, and the urgency of treatment during the first three age periods. Such a diagram gives at a glance the life history of the average denture from, say, the fifth to the seventeenth year. The preparation of such a diagram enables one to see with a prophetic eye and to forecast the future life history of the average denture. Had we the necessary figures, similarly displayed and extended in progressive age columns into adult life, we should probably find the " good " class slowly diminishing to an insignificant quantity, though never absolutely disappearing; the " fair " falling rapidly for a time, and later, possibly, more slowly, and probably always constantly present in a tangible amount; the " bad " soon overtopping the falling line of the " fair " class, but in turn reaching its maximum and then slowly diminishing, but not to the same extent as in the " fair " curve; and finally the " very bad " outstripping the curve of the " bad " class, but never to fall.

In diagram B the same facts are set forth in a different, and, to some at least, in a more graphic way, with results which are plain enough, and therefore need no recapitulation. One may, however, call attention to the relatively small amount of the deeply shaded and black parts of the diagram in the first four bands, representing the condition of the teeth up to the age of fifteen, thus showing that after all only a small proportion of the community need become prematurely toothless or worse tooth-ridden. Had the dentists who examined the teeth of these children been enabled to fill and save, as might be done, all or nearly all of the teeth of the "fair" class, by making them "artificially good," what an immensity of suffering would have been saved to the individual, what an increase of healthful strength would have been added to the community. Some of these children's teeth have happily been cared for at

Diagram B.—Graphically Representing the Average Condition of the Teeth of 8,175 English and Scotch Scholars according to Age Periods.



[Good = no decay or loss. Uncertain = decayed milk teeth only. Fair = 1 to 4; bad = 5 to 8; very bad = 9 or more decayed or lost permanent teeth.]

the expense of the State, and the cost has been almost insignificant. How pitiable, therefore, that so great a loss of irreplaceable physiological capital should be sacrificed for the lack of a little well-directed investment of ordinary and renewable capital.

May I point out, with deep regret, that we have no similar statistics as to the condition of the teeth of Irish children. How interesting to compare them, when extensive enough, with those of Scotch children, if only with the view of ascertaining whether potatoes make better teeth than porridge.

Now, as a ratepayer, I am willing to pay my share, if the State will only take hold of all the children of those who cannot pay to go to a dentist and send them to a State dentist to get their teeth put in order. I would do so for many reasons, but one stands pre-eminent in my mind at the present moment—because, when next I come to Edinburgh and walk down the North Bridge I shall not see so many bonnie lasses but for their awful teeth. One would be amply repaid in that as well as in other ways. We all employ labour, and as such the conclusion is inevitable, that if we have a preventable disease it is absurd—nay more, extravagant—for us not to do something to have it prevented.

We have children brought up in schools, all more or less State institutions, where they are educated, fed, clothed, and doctored, but it is rare to find a dentist attached to such schools. I maintain that a dentist should be so attached, but we do not want the old-fashioned school appointment that used to exist, and alas, still does exist. If I say anything on this question to-day I do so because I have suffered, and in a way which time will never efface. I am an old pupil of one of Edinburgh's grandest "foundations," and I remember only too well my first experiences in dentistry. We had a dentist, a gentleman who died in the odour and sanctity of his profession, and there were great eulogies written of him in the journals. He was employed by an institution which has almost more money than it knows what to do with, but he was paid the munificent sum of £5 a year. We used to be taken away by the porter, a batch of us together, and lugged down to Queen Street, and I know now what occurred. Do you think that that gentleman who had the appointment operated on me himself? No, he knew better than that. He got large premiums with his pupils. He had to find work for their prentice hands, and so our jaws were turned over to their merciless care, which never went beyond extraction. Do you wonder that I for years and years had a prejudice against dentistry as it was practised? Still further, I remember that we had attached to each little iron bedstead a bag, which contained our brush and comb, and had a little funny pocket stitched on the outside, evidently meant for a tooth brush. Do you think there was a tooth brush inside it? Of course things are all changed now in that school, but there was evidently at one time a tooth brush supplied, which had been allowed to pass away. Other authorities, doubtless, were not innocent of this reprehensible negligence, but the main guilt must ever lie at the door of that medically highly qualified but otherwise indifferent and negligent dental officer.

If a dental officer is not sufficiently paid he ought to resign, stating his reason, and so force public opinion. I have a list of school appointments made in the London Metropolitan District, which we owe greatly to the work of the Schools' Committee and to the personal influence of certain members of the Association. I would, however, strongly discourage the offer or acceptance of gratuitous services from some dentists, usually of the advertising class. The great thing is to agitate for properly-paid appointments. In this list the salaries vary in ten schools from £25 to £100; all the more recent appointments are fairly paid. Now, if one saw the returns from each of those schools it would be easy to pick out those with the smaller salaries, for in those schools probably nothing is done but extraction. The children are taken, as I was in my time, to the dentist, and only know cold steel in the shape of forceps, whereas in the higher paid appointments you will find the teeth are saved by being filled. It is well to do that for the sake of the poor child, but it is also well to do so in the interests of the State.

The medical press has long vindicated the principle that the State has no right whatever to demand from the medical profession unrequited labour for the benefit of the public, or labour so badly paid as to be practically unrequited. The principle has been maintained that if the State wants the services of an expert, it should not have those services without paying for them. The State acknowledges that principle with reference to every expert save the medical expert. State recognition of the medical expert, insufficient as it is, is still very considerable; but State recognition of the dental expert is all but non-existent, and is likely to remain so unless the dental profession makes its voice heard as the medical profession is doing, though in the best interests of the public, even that voice should be stronger and bolder than it is.

When we come to discuss State recognition we cannot avoid the question of the Army and Navy. It is of the highest importance that our Services should be well recruited and maintained in the highest possible state of efficiency. At the present moment you would suppose there is no difficulty about recruits. I might refer you to the Inspector-General's report, and give you some figures on that subject. I shall, however, only mention one—that in each report we find that about 30 per cent. of the recruits are accepted under standard. You will find that a Welsh regiment is sent promenading into Wales at considerable expense. They do that because they want recruits. Even in Scotland they send out a body of Highlanders to the Hebrides and other districts with a view of getting additional recruits. These measures are all right enough, but why should the State authorities ignore the means by which, as we have pointed out to them, the dentist can increase the supply of recruits. The Army Medical Department does not take advantage of that help, although the Naval Medical Department has taken some little advantage of it for some years past with satisfactory results. It has an arrangement with the Dental Hospital of London, by which its recruits' teeth are put in order. I differ from many members of the Association on this point as a matter of policy. I do not think it is right to place these recruits in the hands of students. The defenders of the nation should have the best attention of the fully qualified practitioner, and no hospital should enter into unnecessary competition with its past students in this manner. Such an arrangement affects but a small portion of the service, which the further dental provision now made at Haslar cannot wholly rectify.

The following inquiry in the *Western Morning News* proves that some people at least are alive to the necessity of better provision for the health of the Navy as far as regards disease affecting the teeth.

Boys in the Royal Navy.

Sir,—Can anyone inform me if, when a ship is commissioned and about to go away on station for three years or more, whether, at least, the younger part of the crew who have never been abroad before, are examined with regard to the condition of their teeth; also, what measures, if any, are taken to render serviceable any teeth that may be found carious? Further, whether the lads in the several training ships are examined as to the condition of their teeth annually, and what measures, if any, are taken to render serviceable any teeth that may be found carious? The importance of these questions must be my apology for asking for some of your space, bearing as they do upon the maintenance of the health and good physique of the Royal Navy.

Pater.

The experience of our members in seaport towns like Plymouth could easily furnish numerous instances like the following case, for which I am prepared to vouch. A young man, after serving two years as a boy in the "Lion" train-ship, was despatched in March last in H.M.S. "Rainbow" for probably a three years' service on the China Station, with several carious teeth and broken-down roots. It may well be asked, "why should any sailor be sent in this defective but remediable condition, out of reach of efficient restorative treatment? It cannot be economical, and it is almost wanton cruelty to have such men invalided home, as they are, for 'loss or decay of many teeth, or 'dyspepsia.'"

Despite the improvement from recent changes in the Naval Medical Department, it is evident that much remains to be done by extending the provisions already made to the whole Navy, and so equipping our sailors with sound teeth before they are sent abroad, so that their sufferings may be less, so that their medical officers may be spared being called upon to do work beyond their powers, and so that the purse of the nation may be saved unnecessary expense.

It is evident, however, that public opinion is slowly telling in our favour, as the following excerpt from *Truth*, September 20, will show:—

"An officer from whom I have had at different times several interesting communications relating to the welfare of soldiers, writes to me very cogently on the insufficient provision for proper dental attention afforded in the Army. It certainly seems an absurd thing to lay down stringent requirements with regard to the teeth of recruits before enlisting them, and then to leave the men for their seven, twelve, or twenty-one years' service, without any attention from a qualified dental practitioner, unless they choose to pay for it themselves. It is no disparagement to the Medical Staff of the Army, to say that its members have only that general knowledge of dentistry which every surgeon possesses, and even if they had the training they have not the appliances necessary for the proper performance of such work. As the Government undertakes to doctor its soldiers, it ought to provide for properly doctoring their teeth. This could easily be done by having a certain number of qualified dentists on the Medical Staff, and attaching them permanently to the principal military stations, and at the smaller stations making arrangements for the soldiers to be attended by civilian dentists."

As the schools which we have examined are concerned, some of them largely, in the acceptance of their pupils as recruits, the nature of our recommendations as to dental appointments are worth consideration. It will not merely suffice to put a dentist in a large school with so many hundreds of decayed teeth, and expect him—by attendance one day per week—to ever get these children's teeth into thorough order. The school dentist should be empowered to employ an assistant as a temporary dental officer, who should be set to work regularly every day for a few weeks, until the whole of the children's teeth are properly treated. The permanent school dentist's time would be fully occupied by keeping the further ravages of decay in check, and putting the teeth of *new* scholars into proper condition. Our indefatigable secretary, with the co-operation of Mr. Baldwin, made a very careful examination of some 500 boys on the "Exmouth" trainship. As a result of their report, the Metropolitan Asylums Board considered the advisability of making a dental appointment. Mr. Paterson had embodied in his recommendations the provision of a permanent dental officer and a temporary assistant. A sub-committee of the Board discussed the matter with him, thinking that a temporary dental officer would suffice, but Mr. Paterson stuck courageously to the recommendations in the Report, and the Board finally adopted his views as to the dental officer, but not as to the assistant. The first appointment was tentative, and fixed for three months only, but at the salary recommended—£100 per annum—attendance one day per week.

It is interesting and very encouraging to note the results of the experiment. At the end of the three months the appointment was continued, with the further proviso "that Mr. Edward Keen, dental surgeon, should visit the ship three days a week, to attend to the teeth of the boys, in consideration of an extra remuneration of three guineas a week."

The force and wisdom of the original recommendations are thus fully substantiated; and the results of what was confessedly an experiment may best be gathered from the minutes of the Board.

The Committee report that they "have considered the question of the desirability of recommending the retention of his (the dentist's) services, and in doing so they had before them information as to the amount of work Mr. Keen has accomplished to the teeth of the boys, and expressions of opinion from the Captain-Superintendent as to the effect and value of such work. During the past eleven months Mr. Keen has made ninety-five visits to either the ship or the infirmary, and 795 boys have passed through his hands. Of these 202 had sound mouths as to their permanent teeth, making an average of 25·63 per cent.; but some require the removal of temporary teeth, and the teeth of most of them require scaling. Of the 587 other boys, Mr. Keen has stopped 898 teeth, and extracted 164 permanent and 180 temporary teeth." That is the kind of appointment we want to get.

The Captain-Superintendent says:—"I have no hesitation in saying that there has been a very marked diminution of tooth-ache amongst the boys during the last year. Several boys have been enabled to enter the Royal Navy and the Army who would most certainly have been rejected had their teeth not been attended to by the dentist. Finally, I beg to state that a decided improvement in the boys' appearance and freedom from tooth-ache has resulted from the services of the surgeon-dentist."

Given similar experimental appointments, equal if not better results are bound to follow. Hence it is my most earnest desire that the full force of the Association may be brought to bear on this important question. But after all, what is the use unless we formally and officially approach the State? We ought to have the courage of our convictions, and declare these facts boldly to the appropriate State authorities. If the latter are inclined to doubt them, we should ask for an investigation, and insist, in the name of the community, that if substantiated they should be recognised as so important and valuable that effect must be given to them. In a quiet sort of a way something has been effected in the Navy, but I feel quite sure that much more should be done, for not only can we increase the number of recruits for the Army and Navy, but when the recruits get into Her Majesty's service we can insure their dental machinery being kept in thorough order. We must maintain that the man is quite as worthy of attention, of being preserved, as the best part of our fighting machinery. Our guns cannot be worked unless healthy men are behind them, and therefore we contend that the men themselves, including their teeth, ought to be kept in the highest state of efficiency; and none the less since the modern sailor has become a very costly product, for we have to train a man from youth upwards. This takes several years, and entails an expenditure of some £200 per man to teach him the rudiments of his business.

Did time permit it would be easy to formulate equally potent arguments for the recognition of the dentist as a coadjutor to the medical officer in improving the health and therefore the efficiency of our civil servants. Comparatively recent regulations as to the teeth of candidates in so important a department of Her Majesty's Civil Service as the Post Office have been made, and "bad teeth" as an obstacle to Government employment, have been the subject of questions in Parliament and leaders in the press. This department of the State is so up to date, so much in touch with public opinion and demands, that for several years it has admitted women to its medical staff. Yet it can only recognise the necessity for attention to the teeth by short-sighted regulations and requirements which savour somewhat of cruelty to the individual.

The old war spirit has disappeared, but the aggressive character of the British race still persists under better and nobler conditions. Our Navy is not a menace, but our first and our strongest line of defence. What the Navy is to the State, teeth are to the man—his first line of defence. Hence this question of what the dentist can do for the State will never be fully answered until the profession have proved that the practice of their art is not merely a luxury for the rich but a necessity for the everyday worker. The future of our race depends even more on our industrial Army than on our Army and our Navy. Can nothing be done for its recruits? The average length of life of the wage-earning class is said to be one-third, and in some cases one-half, less than that of well-to-do individuals belonging to the same nation, living under the same conditions of climate and upon the same soil. And the question has well been asked: Is it creditable to our stage of civilization that the day-labourer should be condemned to physical torture and premature death? If, as is my conviction, the dentist can contribute to alleviate these conditions by relieving him of certain pain and suffering and thereby rendering him better fitted to fight the cruel battle of life, he is bound both as an individual and as a member of his professional community to promote any measure which will tend to ameliorate these unhappy conditions.

I have brought this question thus thoroughly before you since we have a Representative Board which might be much more of an executive body than it is. It seems to me the duty of the Representative Board to approach the State. It could ask the Local Government Board to receive a deputation, where it would learn that the results of our Collective Investigation are even better known and appreciated than it is aware of. The War Office might inform it how, in consequence of a misapprehension, public money has been wasted in a short-sighted endeavour of the Army Medical Department to carry out some of the reforms suggested before this Association in previous years. The Lords of the Admiralty might give it information that the Director-General of the Naval Medical Department dare not give on his own responsibility, information which I believe would prove that the dental work done at Haslar has been of no inconsiderable value and importance, and might be greatly extended were the subject forced on their attention. Our case is a good and just one, let us state it openly; the public will judge; and should the Government treat the matter coldly and unsympathetically it may be so much the better for our cause in the long run. In any case we cannot fail, for we shall have done something to create that sound public opinion which is the forerunner of achievement. I venture to criticise the inaction of the Representative

Board on this question and to say that I am not content with short paragraphs in secretarial reports as to the usefulness of the Children's Committee or any similar platitudes in the course of after-dinner speeches. Let us adopt a policy of action. Several, if not many, of our members are earnest and enthusiastic in this matter, and pray do not imagine that when they are working for this cause to which they have freely devoted time and money, that they have any self-interests to further. Unconsciously much harm has been done by insinuating that such men, by keeping this subject to the fore, have only had their own interests at heart. Our Board may seem as impassive as a State department, but it will surely respond to any strongly expressed resolution of its electorate, so it is for you to speak. In conclusion, I would strongly urge that the interests of the community are paramount to those of a profession, that the dentist's main duty, like that of every other member of the State, is to be a good citizen, and finally that he can best prove the quality of his citizenship by fearlessly bringing before every section of the community all that the dental community can do for that greater and more important community personified as the State.

Oral Hygiene.*

By WILLIAM HERN, M.R.C.S., L.D.S.

Mr. Chairman and Gentlemen,—Bacteriological research, microscopical evidence, and daily practical experience alike reveal to us the fact that in our work and scope as dental surgeons we are engaged in a perpetual conflict with micro-organisms. Dealing as we are with a mucous cavity enjoying a more or less equable temperature of about 99° F., with a constant supply of moisture and air, and with an abundant store of nutrient material ever at hand, it is evident that the micro-organisms inhabiting the mouth enjoy most of the conditions of environment which conduce to growth and proliferation.

From the time of Leuwenhoek, who as early as 1683 described and depicted many of the chief forms of minute organisms taken from the mouth of an old man who never cleaned his teeth, down to the more recent oral bacteriological investigations of Galippe, Vignal, Black and Miller, the mouth has shown itself to be an excellent incubating chamber and an extremely fertile hunting ground for the bacteriologist. Vignal describes seventeen different kinds of bacteria found in the mouth which he obtained from pure culture. Miller, who has gone over the ground very thoroughly, reports that he has isolated more than one hundred different kinds of micro-organisms from the juices and deposits in the mouth (p. 68).

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* Read at the Annual Meeting of the British Dental Association, held at Edinburgh, August, 1895.

Besides this evidence of the mouth as a forcing house for micro-organisms, we have that of the physiologist and chemist, who show us that certain other changes are continually taking place. Starch is constantly being converted by the salivary ferment into dextrine and dextrose; lactic and butyric acid fermentations are going on; epithelium is ever being shed and removed—and in short, many of those decompositions of complex organic compounds into less complex ones, which characterise the digestive systems of animal life, commence in the mouth.

That eminent bacteriologist, M. Pasteur, has said that whenever and wherever there is decomposition of organic matter—whether it be the case of a herb or an oak, of a worm or a whale—the work is exclusively done by infinitely small organisms.

Passing from the bacteriological and microscopical evidence to that of daily practice, we are all familar with the phenomena of two opposite conditions of mouth—first, the clean, second, the unclean, the respective characters of which may be briefly described as follows:—

I.—*The Clean Mouth* (*a*) has the teeth bright and polished-looking—with their fissures, cervical margins and interstitial surfaces clean and free from deposit; (*b*) has the gum margins pale pink in colour, hard, gristly, and closely applied to the necks of the teeth; (*c*) has little or no salivary calculus; (*d*) has little or no caries; (*e*) has the teeth free from any dark, hard deposit at the gum margins; (*f*) has the breath pure and inoffensive.

II.—*The Unclean Mouth* (*a*) has the teeth of dull, cloudy appearance, with their fissures, cervical margins and interstitial surfaces filled and covered with a soft inspissated deposit; (*b*) has the gum margins reddened, tumid, soft or spongy, and standing away from the necks of the teeth; (*c*) has abundant caries; (*d*) has abundant salivary calculus; (*e*) has a deposit, more or less plentiful, of dark, hard tartar-like material on the teeth at and below the gum margins; (*f*) has more or less pyorrhœic discharge from the gum margins and sockets of the teeth; (*g*) has abundant accumulation of food particles in all degrees of fermentation between and about the teeth; (*h*) has the breath tainted with an offensive odour.

We are further familar with more or less marked varieties of both the clean and the unclean conditions above described in the *same* mouth, *e.g.*, one side of a mouth may show most of the characters of the former, whilst the other side will present many of the characters of the latter.

Or, again, we may meet with many of the conditions of the clean mouth in the incisor region and buccal side of the arch, whilst the molar region and lingual side will show many of the characteristics of the unclean mouth.

Or, lastly, we can occasionally see about a single tooth, *e.g.*, a leaning molar, one side of the tooth—that forming the obtuse angle—presenting the character of the first class, whereas the opposite side will betray some of the characters of the second class.

On seeking an explanation of these different phenomena, we observe in the case of the mouth showing both characters, that the clean and healthy side has been exposed to the friction and movements of the food in mastication, aided perhaps by that of the tooth brush; whereas the unclean side, either from lack of antagonizing teeth, or from conscious or unconscious abstention from mastication and brushing on the patient's part, has been left in undisturbed quietude and rest.

Briefly stated, then, the difference between the healthy and the unhealthy conditions is, that in the former a system of sweeping and scouring has been carried out, whereas in the latter the dust heap has been allowed to remain quietly fermenting and proliferating—in other words, incubating organisms and producing acids of fermentation. These observations, I think, should teach us, almost apart from the confirmatory evidence of the microscope, that the growth and multiplication of organisms in the mouth are strictly in proportion to the amount of rest or disturbance to which they are subjected.

If these, then, are the conditions to which the mouths of our patients are exposed, it becomes us, as those responsible for the saving of the dental organs, and the general welfare of their mouths, to enquire, and decide, how we can most effectively wage war upon these two enemies, the chemical and the parasitical.

We recognise in the practice of medicine two well-defined sides, the preventive and the curative, and it seems to me that in the practice of dental surgery, prevention should play quite as important a part in our consideration and methods as reparation and cure.

I would therefore urge it as no mean part of our duty to impress on our patients, and particularly on the young, the importance of cultivating the *habit* of thorough and regular brushing of the teeth and gum margins. When this regular system of scavenging is properly carried out, food *dêbris* is cleared away from the teeth, and the organisms are either swept away, or kept so much on the move that their life at best is a nomadic one, and no opportunity is left to them of rest, segregation, and proliferation.

Efficient brushing, however, involves something more than an occasional dry polish or horizontal movement of the brush on the labial surfaces of the upper front teeth; and my experience is that very many patients require instruction and guidance in three particular directions, which may be summed up by the words, *how*, *when*, and *where* to brush.

In regard to the question of *how* to brush, I would say let patients be taught to regard the tooth brush as a collection of minature tooth picks on a stick; this will suggest to them that up and down wrist-sweep of the brush which is so effectual in cleaning the interstitial surfaces of the teeth as well as the gum margins. In giving instruction as to this vertical rotatory motion, it is wise to direct the patient to make the stress of the *downward* movement of the brush to fall upon the upper gums and teeth, and that of the *upward* sweep to fall on the lower gums and teeth; the effect of this is that the surfaces of the gums are always being swept *towards* the teeth and not away from them. Horizontal movements of the brush should not be encouraged; an oval movement of the brush, however, with the long diameter in the vertical direction, is a moderately cleansing one, though less efficient, to my mind, than the vertical rotatory one just described.

As to the question of *when* to brush, my answer would be *night* and *morning*. The thorough cleansing of the fissures and interstitial surfaces of teeth after the last meal at night I regard as a most important factor in our preventive treatment, and a duty we cannot too emphatically lay down to our patients. In connection with this subject of when to brush, it is, I think, helpful to our end to explain briefly to the patients the important part which the carbo-hydrate groups of food (starches and sugars) play in decay of the teeth, and thus to bring them into sympathy with their dental adviser in practising careful cleansing. The common practice of giving children a sweet or biscuit as a "placebo" on going to bed, and thus sending them off to sleep with the fissures and interstitial surfaces of their teeth filled with highly fermentable material, is one to be strongly condemned.

As to the question of *where* to brush, one's answer of course is "all those parts of the teeth which can be reached with a tooth brush," viz., buccal, masticating, and lingual surfaces.

On this point our patients too commonly fall into the error of considering the duty accomplished when the buccal surfaces only of the eight or ten anterior teeth are reached with the brush. To point out this omission to a patient is not always an agreeable duty, but with a little tact it can be done quite inoffensively; by taking the mirror and showing the patient some tartar-covered molars, or drawing attention to a reddened and tumid condition of the gum margin which the brush has "hardly been reaching," is usually a sufficient hint for the majority of patients. *We* ought not to be satisfied with the state of any mouth unless all surfaces of the teeth and their contiguous gum margins show by their clean and healthy condition that the sweep of the tooth brush is regularly applied to them.

I would now pass on to consider the tooth brush, and on this question I would say that it is unreasonable to expect any work to be well done unless the tool which is to be used is suited and adapted to that particular work. Tooth brushes as ordinarily made do not, I think, quite fulfil these conditions as implements for use in the mouth.

There are three characteristics which I think a good tooth brush should possess:—(1) It should be small enough to be manipulated with ease within the lips and cheeks. (2) Its shape should be such as to readily adapt itself to the form of the jaw and the work it has to do. The shape I prefer is the longitudinally hollowed and transversely ridged brush, having the bristles towards the point directed obliquely forwards to nearly an angle of 40° with the back. This enables the user to reach and sweep the buccal surfaces of posterior molars and wisdom teeth without striking the ascending ramus of the lower jaw with the end of the back of the brush. The head of the brush should also be bent forwards to an angle of about 20° with the handle; this enables the brush to be used more effectively for the lingual surfaces, especially of lower incisors. (3) The bristles should be sufficiently stiff to act the part of miniature tooth picks; badger hair or other soft brushes are, in my opinion, useless. In order to retain this virtue of stiffness, it is a good plan to keep a rotation of two or three brushes in use at the same time, and to see that they are kept freely exposed to the air during their intervals of rest. Closed vessels for storing tooth brushes after use are, from the softening effect on the bristles, perhaps responsible for more of the imperfectly-cleansed mouths that we see than we are aware of.

The arrangement of the bristles in the back of the brush I consider of some importance. I prefer four longitudinal rows with the two inner rows of a stiffer grade than the outer ones; they should also be inclined towards each other for mutual support, and slightly longer than the outer rows. The bristles forming the point of the brush should also be of the stiffer grade, to counterbalance the larger amount of work they have to do in brushing the lingual surfaces of lower teeth.

There are special cases, *e.g.*, those with backwardly directed lower incisors, where a brush of a more marked curve in the handle may be advisable, but I have found that which I have described a most efficient one in practice, in my own mouth and in the mouths of the majority of my patients.

In regard to the questions of the use of tooth powders, tooth soaps, or tooth pastes, I feel that in an Association like this there may, and probably will be, some difference of opinion. If all our patients were ideally perfect brushers, and enjoyed robust health, there might be sufficient ground for objecting to these aids to cleanliness. But as this is not the case, and as this is an age of such unceasing activity and engrossment in mundane affairs, if we can put anything into the hands of our patients which will effect a saving of time (or will do the work with greater efficiency in a given time), I think we are more than justified in doing so. I would, therefore, enjoin the use of one of these agents at least once daily. Of the three I give preference to a simple tooth powder. I do not wish to recommend any special form or prescription, but would merely content myself with enumerating the main ingredients which in my view any efficient powder should possess: (1) It should contain a scouring or polishing agent of the nature of a minutely-divided powder, such as precipitated chalk; (2) an antiseptic—carbolic is a useful one;* (3) an antacid and mucin solvent, such as bicarbonate or biborate of soda; (4) a cleansing agent in the form of a neutral soap—Castile is the best; (5) a flavouring agent, such as one of the essential oils or spirituous essences.

If one examines the prescriptions for tooth powders suggested by the Druggists' General Receipt Book, one will be amazed, if not perplexed, by the number and variety of ingredients suggested — powdered coral, cuttle fish, orris root, oyster shell, charcoal, areca nut, cocoanut shell, venetian talc, burnt bread, tobacco ash, pumice, are some of these. Besides being unnecessary, some may even be harmful, and there are obvious objections to many of them.

Mouth washes are occasionally useful—sometimes advisable—but we should carefully guard our patients from trusting to these agents as substitutes for careful mechanical cleansing, rather than regarding them as auxiliaries and adjuncts to that of the brush; indeed it is my experience, that in proportion as the brush is efficiently used, so will the mouth wash become less called for, if not quite unnecessary. There are two special qualities which to my mind should be prominent in any good mouth wash: (1) the antiseptic; (2) the astringent action.

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* Its use is especially marked in cases of irritable mucous membrane, on account of its benumbing action on the mucous membrane, thus checking the tendency of the brush to cause retching when used for the back teeth.

I have no intention of suggesting any special prescription or panacea as a mouth wash. Our choice of agents is a comparatively wide one, including: benzoic acid, borobenzoic acid, boroglyceride, salicylic acid, carbolic acid, phenate of soda, sulphate of copper, sulphate of zinc, listerine, thymol, saccharin, rhatany, oil of peppermint, chloride, and biborate of soda and others.

I have used one containing benzoic acid, saccharin and oil of peppermint with good results for some cases. I have also used a simple wash of common salt solution with good effect, but where there is anything like an extensive colonisation of organisms to be dealt with I prefer a strong solution of sulphate of copper, as possessing the powerfully antiseptic and astringent qualities which are desired.

The use of an antiseptic mouth wash is frequently desirable in mouths where artificial plates, &c. are worn. We ought to regard the placing of plates and other mechanical appliances in the mouth in much the same light as planting fields with gorse on a farm over-run by rabbits, viz., as so much additional cover for their rest and multiplication, requiring, therefore, extra prophylactic measures to keep them down.

There is another class of mouth, where such an auxiliary agent to the brush seems indicated. I refer to that in which the mucous membrane of the mouth and fauces is soft, congested, and having a tendency to adenoid overgrowth, often associated with enlarged tonsils. It a plate be worn in such a mouth its bed will be mapped out with a more intensely marked redness and congestion, amounting almost to inflammation; the conditions of environment in these cases seem to me especially favourable to micro-organic growth, and the mouth apparently falls an easy prey to their colonies.

With the agencies mentioned we may assume now to have reached and disturbed most of the food *dêbris* and organisms lying at rest in the mouth; there will remain, however, in many mouths, and particularly in those with any degree of overcrowding, certain spaces and positions of contact, where some other agent than those before mentioned will be necessary to cleanse the space and prevent mischief. We have these agents in (*a*) the tooth-pick, (*b*) the floss silk strand, or (*c*) the strip of rubber, chamois leather, or tape. Of the tooth picks, the quill and soft wood are the safest and least harmful of these space cleansers to recommend to our male patients, while the floss silk or one of the above mentioned strips are the best, perhaps, to offer our lady patients and young people; the number and variety of overlapping or other kinds of contact in a given mouth should be our guide as to whether the floss silk or toothpick is the better cleanser to advise. Having instructed our patients in the use and value of the foregoing preventive measures, one duty still remains to us, and that is to advise our patients to pay *regular visits for inspection*, so that early caries can be detected and stopped, and incipient gum trouble can be treated.

To recapitulate then, the directly preventive measures consist of: (1) Regular and systematic brushing of all the surfaces of the teeth as well as the gum margins with the tooth brush used with a vertical, rotary *wrist* motion, night and morning. (2) A recommendation to have an alternation of two or more brushes in use at a time, and to keep them during the intervals of use freely exposed to the air. (3) The use of a simple tooth powder at least once daily. (4) The tooth brush to be *small*, moderately stiff and anatomically shaped and curved. (5) A brief explanation to all patients who require it, of the chief causes of decay and the important *rôle* played by food and organisms in its cause. (6) Show the patients with the mirror the difference between the clean and the unclean conditions; point out deficiencies in the use of the brush, and thus bring each patient to take an intelligent interest in his own mouth and aid the dental surgeon in his efforts of prevention. (7) The use of an antiseptic and astringent mouth wash in some cases, especially those in which plates are worn. (8) The use of a quill toothpick for men and the floss silk, rubber, or other strip for women and children. (9) Periodical inspection of mouth by dentist.

I now propose to enumerate some important precautions in our work as *indirectly* preventive measures.

INDIRECTLY PREVENTIVE MEASURES IN WORK.

The main objects of these would be to prevent any coigns of vantage for the lodgment and fermentation of food and *débris*, and to obviate inaccessible refuges for organisms.

(1) *In Teeth.*—(*a*) By filling cavities; (*b*) by levelling up valleys, *e.g.*, *crevasses* of fissure.

(2) *Between Teeth.*—(*a*) By careful contouring—this is a measure I would emphasize to the utmost of my power; (*b*) by *occasional* spacing; (*c*) by judicious extraction in overcrowded arches.

(3) *Around Teeth.*—(*a*) By removal of salivary calculus; (*b*) by removal of dark deposit under the edges of the gums; (*c*) by treatment of the gums; (*d*) by accurate fitting of collars and crowns—the "tea-cosy" varieties are fruitful incubators of organisms; (*e*) by finishing the cervical and other edges of our fillings flush with surrounding tooth surface.

(4) *Between Plates and Teeth.*—(*a*) By carefully fitting plates and bands; (*b*) by frequent removal of plates, and thorough and systematic cleansing of the plate and bands with stiff brushes and cane sticks.

(5) By dressing, crowning, levelling-down, or removal of roots and derelict remnants of teeth.

(6) By constructing all bridges and fixed mechanical appliances with free access to the tooth brush, and in such manner as not to provide favourable nooks as hiding places for organisms.

In referring to some of the effects and consequences proceeding from the non-hygienic mouth, I would mention an axiom, which I think Dr. George Harley is responsible for, viz., "that all disease germs tend to produce local as well as constitutional disturbances."

In no department of surgery are these disturbances more marked and instructive than in the scope of dental surgery.

From the first local effect of germ colonization at the gum margin (viz., the thin, red line running parallel with the crescentic border of the gums) onwards to the more tumid and reddened appearance of gum margins until we reach the congested and purple state of the pocketing and pus-discharging condition of advanced pyorrhœa, the differences are, in my opinion, merely one of degree. This reddened gum margin, or first sign of protection of the organism against the inroads of the microphytes, is interesting not only as supporting Metschnikoft's views of inflammation, but is one which the observant dental surgeon should use as a signal and warning to the patient for increased care and efficiency in the use of the brush. Another local effect which has its origin, to my mind, in a similar cause (viz., a local micro-organic invasion and colonisation) is the frequently serious inflammatory troubles which occur about an erupting wisdom tooth. Again, who has not observed the inflamed, irritable, and extremely sensitive condition of the socket after an extraction in an unhealthy mouth, of which the cause is apparently attributable to an auto-infection by pathogenic organisms.

The various ulcerations, again, about the mouth, from the comparatively common cases of ulcerative stomatitis in children, to the more serious serpiginous ulcerations of secondary syphilis, &c. ; these all, from their position and origin in the gum margins and folds of mucous membrane, from their tendency to spread and to infect contiguous portions of mucous membrane, and from their behaviour under a powerful germicide such as sulphate of copper, betray micro-organic colonizations as their exciting cause.

Some interesting cases of ulceration of this nature have come under my notice in hospital practice. In one little hospital patient there was marked superficial ulceration of the right side of the tongue and inside of the right cheek contiguous to, and surrounding, an extensively carious lower, second temporary molar. The gum around the tooth was also tumid and reddened ; and scattered about the mouth were small roundish ulcerating spots evidently secondary colonies. These local conditions were cured with one or two applications of a strong solution of copper sulphate, thus to my view confirming the diagnosis.

The swelling and enlargment of the lymphatic glands under the jaw is a disease, too, often occasioned by infectious germs which enter the lymph passage from without and are carried into the glands, the germs of infection being taken up in these cases from the gum or from the periosteum of the dead tooth. In connection with this method of micro-organic invasion it is interesting to note the effects of experiments performed by Dr. Sims Woodhead during the recent Royal Commission on Tuberculosis. He found that pigs fed on tuberculous milk which had been lessened in virulence by exposure to certain low temperatures insufficient for the actual destruction of the tubercle bacillus, did not get general tuberculosis, but they developed chronic enlargement of the throat glands resembling the scrofulous glands so common in children. We may assume, therefore, that some of the cases of lymphadenitis in children are due to germs taken up from the lymphatics of an unhealthy mouth.

It is quite possible again to suspect from the proximity of the tonsils to the mouth, and from the continuity of their mucous membrane with that of the oral cavity, that cases of tonsillitis may be occasioned by infection from the mouth. Many observers too have noted severe cases of *constitutional* disturbances arising from the unclean and unhealthy mouth. Occupying as it does the ante-room to the intestinal canal, the infected mouth by the mere act of swallowing material laden with pyogenic and other organisms must produce disorders of the stomach and intestinal canal. Amongst the effects of swallowing saprophytic organisms may be mentioned disordered digestion, loss of appetite, nausea, flatulence, discolouration of the skin, skin eruption, anæmia, &c. —in short, the symptoms of sapræmia. In my view these symptoms are much more frequent sequelæ of the unhealthy mouth than is commonly supposed. In connection with these stomachic derangements I may mention a case I have recently had under my treatment. It is that of a middle-aged patient who consulted me for treatment of advanced pyorrhœa from which she had suffered for some years; during the past five years she has complained of several of these symptoms of disordered digestion, and has been afflicted for more than three years with a severe and disfiguring attack of acne rosacea. Since treatment was begun on the mouth and teeth, about three or four months ago, the patient's health has improved and the acne has gradually cleared until at the present time it is almost unnoticeable. This result has been attained without any general medical treatment.

More serious general effects have, however, to be noted. Miller has recorded many fatal cases of auto-infection of septicæmia and pyæmia following extraction of teeth and other operations about the mouth. Poore reported to the Medical Congress of 1887, eleven cases of chronic pyæmia proceeding from the teeth. Dr. Sims Woodhead has seen several cases where death has occurred with all the symptoms of acute septicæmia, or with symptoms of more chronic poisoning as in pyæmia, from extraction of the teeth or lancing of the gums in patients with imperfectly cleansed mouths.

Isolated cases are also recorded in medical and dental literature of fatal blood poisoning from abscesses, &c., about the mouth.

The importance of oral hygiene to all those engaged in general surgery is obvious, for one can conceive it quite possible that the result of some brilliant abdominal surgical operation might be marred by pathogenic organisms projected into the peritoneal cavity through the act of coughing, sneezing or even breathing of some person possessing a non-hygienic mouth standing near during the operation or during subsequent dressings.

Seeing, then, that disturbances of so varied and so serious a nature may occur to the possessor of the non-hygienic mouth, it becomes us, as an Association of those to whom the care of the mouth is entrusted, to be in concord as to our counsel and action towards our patients in respect to oral hygenic measures. I am fully aware that preventive measures such as I have sketched, are not only well-known, but are practised by the majority of the members of this Association. I am yet anxious to engage the attention and practice of the minority in the same cause and to the same end. Our late great leader, Sir John Tomes, once said that "utility alone was the *raison d'être* of the dentist's existence," and I venture to think that if some such rules of oral hygiene as I have alluded to were universally carried out, caries would be lessened, pyorrhœa alveolaris would be little heard of, and the general well-being of our patients would be increased—in other words, we should become more useful to our patients, for "prevention is better than cure."

Appointments.

J. Dencer Whittles, L.D.S., to be Lecturer on Materia Medica and Practical Pharmacy to Mason College, Birmingham.

T. S. Davison, L.D.S.Eng., to be Honorary Dental Surgeon to the Darlington Hospital and Dispensary.

Bosworth Harcourt to be Dental Surgeon to the Jenny Lind Infirmary for Sick Children, Norwich.

Legal Intelligence.

Prosecution under the Dentists Act.

TACKLING A "TEETH DEPOT" AT BURNLEY.

AT Burnley, on March 3, Richard Hamer, Oxford Road, was summoned by the British Dental Association for having taken and used the word "dentist," contrary to section 3 of the Dentists Act, 1878. Mr. R. W. Turner, barrister-at-law, prosecuted, and it appeared that a man named Allanson, an inquiry officer, went to Hamer's place of business, in Oxford Road, in January, and tendered some work. He gave him a receipt for money paid, and on that form there was the word "dentist." The defendant also gave him two cards bearing the same word, and stating that teeth were extracted, gas, cocaine, and other things being used to obviate the infliction of pain. Over the door was a lamp bearing the words "Artificial teeth depot." Seeing that the defendant used all those appliances, and that he was unqualified, the Association thought they ought to institute a prosecution.

Mr. JOHN SUTCLIFFE, who appeared for the defendant, said that the defendant had practised for seventeen years, and it was singular that he had not previously been prosecuted. With respect to the word on the account form, that had been put on by the printer, without the defendant's consent, and he asked the Bench to look lightly upon the matter, especially seeing that the defendant had not received any notice from the Association that a prosecution was to be undertaken.

The Bench inflicted a fine of £2 and costs.

Reports of Societies and other Meetings.

The Odontological Society of Great Britain.

THE usual monthly meeting was held on the 2nd inst., Mr. DAVID HEPBURN, President, in the chair.

The minutes of the previous meeting were read and confirmed.

The following gentleman, having signed the obligation book, was duly elected a member of the Society: — Mr. Walter S. Nowell, M.A.Cantab., L.D.S.Eng., 41, Wimpole Street, W.

The following gentlemen, having signed the necessary obligation forms, were admitted members of the Society:—Mr. Ernest Catt, 12, Valley Bridge, Scarborough; Mr. Cornelius W. Fryer, Orchard Gardens, Teignmouth; Mr. E. L. Dudley, 14, The Circus, Bath.

The following gentleman was duly elected a member of the Society: — Mr. Harold Dewe Matthews, L.D.S.Eng., Grove Field Villa, Cheltenham.

Mr. STORER BENNETT reported the presentation to the Museum of a model showing three upper temporary laterals by Mr. Beadnell Gill, also of six pieces, showing old bone work. A specimen had also been sent comprising a portion of a mandible, containing a canine and a lower molar from a cave bear, found under fifty feet of limestone rock in the Riviera. Dr. Wallace presented a portion of the mandible of a female tapir.

Mr. STORER BENNETT exhibited by means of lantern slides models showing a case of superior protrusion, which illustrated the danger sometimes attending the injudicious use of elastic bands in attempting to move natural teeth in any direction. Mr. Bennett also showed models of the upper jaw of a lady, aged 33, showing the absence of permanent teeth — a fact noticeable also in a sister of the same patient. The skull of a white-nosed monkey (nearly adult) was also shown. In this specimen the canines were nearly erupted, but there were no permanent centrals or laterals.

He also exhibited the skull of a monkey in which there was only one central incisor, the central incisor on the right side being deflected very considerably over to the left.

Mr. SIDNEY SPOKES asked whether, in the case mentioned of the lady, there were any other signs of suppression—whether her hair was luxurious and the nails perfect.

Mr. REINHARDT mentioned a case of a patient, aged 26, who had only five teeth altogether in both jaws. There were only two permanent teeth. She had, however, a luxuriant crop of hair, and her nails were normal.

Mr. STORER BENNETT said in the case alluded to there was nothing remarkable either about the dermal appendices or the hair.

Mr. CHARTERS WHITE said a case was brought before the Society in years gone by of a profusion of hair all over the face, associated with the suppression of permanent teeth.

The PRESIDENT said he remembered the case. There was also a case of a Russian family, known as the hairy people, their faces being entirely covered with hair. On examining the mouth of one of the children, aged 7, he found some three or four central incisors, but the father had never erupted more than some four or five rudimentary teeth in the front of the mouth. There were many other instances on record where this peculiarity had been associated with an abnormal development in the hair.

Mr. BLAIN exhibited specimens of Dr. Martin's "Prothèse immédiate," and described briefly the method of construction.

Mr. J. F. COLYER asked whether the use of these instruments was found in any way to interfere with the healing of the wound. The specimens were very beautitful, but were they useful in practice? He thought that when contraction took place they must be pretty well useless. He mentioned a case where Mr. Boyd, having removed the left half of the mandible for myeloid sarcoma, he (Mr. Colyer) put in a plate, which, although perfectly counteracting the tendency of the right side of the jaw to be brought round by the external pterygoid, resulted in rapid absorption and ulceration of the portions of the jaw which came in contact with the plate.

Mr. DAVIS showed an artificial nose made by Mr. Bond. The patient had for some years worn a nose attached to spectacles. It had now been replaced by a nose attached to the plate worn covering the perforation of the palate, and with very successful results. The patient was in attendance.

Dr. MARETT TIMS read a paper dealing with the origin of the mammalian teeth, and giving a *résumé* of some of the more recent and important views connected therewith—a subject of great importance, from both classificatory and phylogenetic points of view. He explained how since the works of Darwin a great amount of research had been carried on with the object of tracing out the evolution of almost every organ of the animal body, but curiously the teeth had not until comparatively recently received the detailed attention that might have been expected. This was the more surprising seeing the importance of palæontology in filling up the gaps in ancestral history, and that the teeth—the hardest structures in the animal body—were in many instances the only organs preserved in the geological records.

From an elaborate review of the evidence Dr. Tims arrived at the following conclusions :—

(1) That there was probably no example of a true monophyodont mammal.

(2) That the dentitions were tending to disappear from without inwards.

(3) That there was not sufficient evidence to warrant the belief in the existence of a pre-milk dentition.

(4) That there was ample evidence in favour of the existence of three dentitions, the deciduous, successional and post-permanent, which thus brought the mammalia more into line with their polyphyodont reptilian ancestors, and did away with the former difficulty as to whether the milk or the permanent was the super-added dentition, since both were of equal antiquity handed down from their reptilian progenitors.

Dealing next with the views held with regard to the origin of complex crowns from the simple reptilian cone, Dr. Tims referred to the tri-tubercular theory which was widely accepted, especially in America, and was strongly upheld by Professors Cope and Osborn. The evidence in favour of this view, he said, was mainly palæontological, but the question was still *sub judice*.

The multi-tuberculate theory put forward by Dr. Forsyth Major, E. S. Goodrich and others, was based upon the view that the early mammalia had teeth possessing many cusps, and that by a gradual suppression of some of these the teeth of existing mammals had been derived. Two pieces of evidence were in favour of this theory: (1) that early fossil forms had been found with multi-cuspidate teeth; and (2) that the montremes among the most primitive of existing mammals had teeth of the same description. With regard to the fossil forms, it should, however, be borne in mind that they were probably highly specialised forms, and though some of the mammalia might have been derived from the multituberculata, it was highly improbable that they all were. With regard to the origin of the multituberculata from the reptilia, a possible explanation was to be found in Kükenthal's concrescence theory, by which a fusion of several teeth of the same dentition and of different dentitions was supposed to have taken place, causing a reduction in the number of teeth. In conclusion, Dr. Tims acknowledged his great indebtedness to Mr. Charters White in the preparation of the photo-micrographs with which the paper was illustrated.

A discussion followed upon some of the points brought forward by Dr. Tims in his very elaborate paper. Various points were raised by Mr. F. J. Bennett, Mr. F. Woodward, Mr. W. B. Paterson and Mr. Baldwin, and replied to by the author.

At the conclusion of the discussion the thanks of the Society were accorded to Dr. Tims and the authors of Casual Communications, after which the Society adjourned to April 13.

Opening of the New Dental Hospital of Ireland.

The new Dental Hospital of Ireland was formally opened on February 17, at a public meeting held in the Conservation Room of the new building, Lincoln Place. There was a large and fashionable attendance. The Right Hon. the Lord Mayor, accompanied by the Lady Mayoress, presided. On his right sat Her Grace the Duchess of Abercorn, who has taken the deepest interest in the hospital. Of this Her Grace has given many tokens, and that day she attended for the purpose of laying the corner-stone of the second block of the new building. The block now completed has cost nearly £4,000, and the second block is estimated to cost a similar sum.

The Right Hon. the Lord Mayor having taken the chair, Dr. R. Theodore Stack gave a short sketch of the movement for a dental hospital in Dublin.

The annual report, which gave an account of the progress of the hospital from its foundation to the present time, and pointed out the necessity for its extension and development, was submitted.

The President of the College of Physicians moved that the report be adopted. He said he could heartily congratulate Dr. Stack on the admirable address he had delivered on the advance of the institution. It was pleasant to be able to congratulate the friends, managers, and administrators of the institution on the advances which had been made in the construction of the new building, and, above all, in the advance that had taken place in dental surgery. Dental surgery had been placed in a more substantial and more useful position in the city of Dublin than it had hitherto occupied, and he (Dr. Grimshaw) felt especially pleased at this. They might permit him to say that in his early youth he had intended to make dental surgery his profession. He should like to notice that in the development—in nearly the final completion of that institution—they had completed the circle of medical charities in Dublin. It was the only link, he thought, that was wanting. He was glad to know that lady visitors to the poor could have there an opportunity of learning sufficient to enable them to see the serious consequences likely to arise to children in after, and even in early, life from bad teeth, and to enable them to teach these people how to avoid the evils, which, no doubt, were very numerous indeed, from the early disease of the teeth. He believed himself that Dr. Stack had not in the least exaggerated—he thought he had rather under-estimated—the evils that arose from diseased teeth. He himself was pretty well satisfied that life might be very materially prolonged if every one was brought through the period of youth with a sound set of teeth. An old friend of his used to say that dental surgeons, by artificial teeth alone, had tended to prolong life more than any other branch of the profession. He would not go so far as that. As Registrar-General he had learned that the average of life had been raised by the increased expectancy of life in the earlier half of life and not in the latter. Now, he thought that dental surgeons might claim a little of this. How much he did not venture to estimate, but he thought they might claim a share of it. That institution afforded many educational advantages to the medical profession. It was advantageous to have the work connected with dental surgery concentrated in one centre, where pupils might attend and learn the treatment of diseases of the teeth and matters connected therewith. This was a subject that had been very much neglected—the teaching of dental surgery—in the early days of medicine and surgery, although it was mentioned very long ago, but to have a systematic method of teaching was a matter of great importance, and that could only be provided at such an institution as they were now assembled in. His father was the first regularly constituted lecturer in this city on this subject, and he could not help congratulating them on the progress they had made in recent times.

Dr. James Little, in seconding the resolution, said he was not naturally enthusiastic, but he must say that anyone who had come in contact with Dr. Stack, and had seen the self-denying enthusiasm with which he had approached the subject of this hospital, and the perseverance with which he had contended against all difficulties, could hardly fail to have caught up some of the enthusiasm with which he had worked up the establishment of this dental hospital. A great number of nervous ailments from which young people suffered were connected with the teeth. He was quite sure that headaches and an incapacity for study were very often dependent upon troubles which the dental surgeon could remove. It was stated in a novel by Sir George Cornewall Lewis that the first necessity of every being was that he should be a good animal. Certainly the sufferings resulting from neuralgia and other ailments of that sort placed them in a bad position for fighting the battle of life. Want of teeth injured the digestive organs. Whatever might be said of the want of nobility in the man who lives to eat, it was absolutely necessary that they should all eat to live. It had been said that the happiness of life depended not so much upon the great things as upon the small, and although he could not speak with any personal knowledge of the misery of a toothache, yet he was sure that it took much from the pleasures of life. Those who knew what suffering was, knew that ill-health spoils the temper, disappoints engagements, and goes a long way to destroy the happiness of life. The staff of that hospital would, in his opinion, deserve well of the public if they assisted in lessening what were sometimes spoken of as small miseries.

The resolution was adopted.

Sir THORNLEY STOKER (President of the College of Surgeons) moved "That the Dental Hospital is worthy of support." As the present representative of surgery in Ireland, he could say that this hospital was not only doing a great and humane service among the poor, but it was forwarding the cause of dental education in a way that was particularly necessary in this country. Until this hospital was founded there was no systematic instruction in dentistry possible, except what students obtained at the hands of private practitioners. It was of the utmost importance that the public should interest themselves in a work of this kind, which should not be left to private enterprise. He could say that it had been of great service to a class of persons above the extreme poor—he referred to the poorer shop-keeping class, clerks with small incomes, and seamstresses, &c. Further, he was aware that in many cases it had supplied appliances at small cost, and in some cases at no cost at all, where the recipients were unable to pay for them. The fact that it had so many friends was in itself satisfactory evidence that the public thought it worthy of support, and that they would always be forthcoming when support of a practical character was wanted.

Count NOBLE PLUNKETT seconded the resolution in the absence of Alderman Dillon. He performed that duty very heartily, and as the first layman that had spoken he might be allowed to express the strong feeling of the public, both as to the need of the hospital and the admirable manner in which the work had been carried on under trying circumstances for many years. He joined in the hope that the public would contribute such means as the new building and the maintenance of the whole institution, as an institution, called for.

The resolution was unanimously adopted.

Mr. W. BOOTH PEARSALL moved "That the best thanks of the meeting be given to her Grace the Duchess of Abercorn for her attendance that day."

Dr. FITZGIBBON seconded the vote of thanks. He said it was about eight years since he had the honour of being on the same platform with her Grace at a meeting on behalf of the Dublin Dental Hospital. At that period the institution was in its infancy. It had no place of its own in which to hold that meeting, and he, as President of the College of Surgeons that year, had the privilege of being able to place a room in the College of Surgeons at the disposal of the Committee of the Dental Hospital in which to hold the meeting. Her Grace very kindly presided, and that meeting was, he believed, the first impulse which was given to the public of joining in raising money, which had developed into the establishment of this new and promising hospital. He knew from his connection with the Post Office that the employées there received great benefit from that institution. The Post Office sorters, postmen, telegraphists and telegraph messengers were included in that statement. No one that was not connected with such a department could realise the trials that men had to go through in delivering the citizens' letters in the early morning and late at night, and if they added to the hardship of the work the fact that they often had to go out suffering from toothache, they would hardly be surprised that their letters would sometimes be late.

The resolution was put and carried amid applause, and the Lord Mayor conveyed its terms to her Grace.

The second chair having been taken by Mr. Pollock,

On the motion of Dr. Baker, seconded by Mr. Corbett, jun., a cordial vote of thanks was passed to the Lord Mayor for presiding.

The LORD MAYOR, in acknowledging the compliment, tendered to her Grace the Duchess of Abercorn, on behalf of the citizens of Dublin, their sincere thanks for the continuous and substantial patronage which she had bestowed on the hospital. The necessity for a hospital of the kind was unfortunately too long unrecognised, and now that they had got it they should see that its effectiveness would not be limited or restricted by apathy or neglect.

The meeting then terminated.

Subsequently the Duchess of Abercorn laid the corner-stone of the additional new wing in the presence of a large assembly. The silver trowel which she used on the occasion was presented by the contractor, Mr. Good, and it bore the following inscription :—"With this trowel the corner-stone of the Dental Hospital was laid by Mary, Duchess of Abercorn, February 17, 1896."

The following is the inscription on the corner-stone :—" This stone was here placed by Mary, Duchess of Abercorn, on the 17th day of February, 1896, on which occasion also this Dental Hospital was declared open by the Right Hon. R. F. M'Coy, Lord Mayor of Dublin."

Victoria Dental Hospital.

THE Twelfth Annual Meeting of the governors and patrons of this institution was held, February 12, at the Hospital, Devonshire Street, All Saints'. Mr. W. A. Copinger was in the chair. The number of patients, the report of the Committee showed, although fluctuating slightly from year to year, continued to maintain its average ; and the fact that 126,308 persons had been treated, and 158,581 operations performed, was a proof that the work of the institution was held at its proper value by the class for whose benefit the hospital had been established, and who, but for its existence, would have been debarred from obtaining the highest professional assistance in all diseases relating to the teeth. The Committee appealed again most earnestly to the public for support. The hospital was largely in debt to the treasurer on its current account.

The CHAIRMAN moved the adoption of the report, and expressed his regret that the hospital, which was doing most satisfactory work, did not receive more support from the public.

Mr. W. HEADRIDGE seconded the motion, and the report was adopted unanimously.

Votes of thanks were given to the chairman, and to the committee and officers of the institution.

Newcastle Dental Hospital.

THE first annual general meeting of the Governors of the Newcastle Dental Hospital was held on February 27, in the board room of the hospital, 37, Nelson Street, the MAYOR (Mr Riley Lord) in the chair.

Mr. FRANK MARSHALL, Hon. Secretary, read the report of the Committee.

On the motion of the MAYOR, seconded by Mr. G. R. BREWIS, the report was adopted and ordered to be printed and circulated. The officers for the ensuing year were elected as follows :—President, the Right Hon. Sir Matthew White Ridley, Bart., M.P. ; Vice-Presidents, the Right Rev. the Bishop of Newcastle, Mr. W. A. Watson-Armstrong, and the Mayor of Newcastle ; Committee of Management, Aldermen Stephenson, Stephens, and Sutton, Councillors J. A. Baty and W. J. Sanderson, Messrs. G. B. Bainbridge, G. R. Brewis, James Logan, Jun., W. B. Reid, G. W. McLean, Alexander Laing, and James Cutter ; Hon. Auditor, Mr. R. W. Sisson ; Hon. Treasurer, Mr. R. Gurney Hoare (Messrs. Hodgkin and Co.) ; Hon. Secretary, Mr. Frank Marshall ; Trustees, Messrs. R. L. Markham, A. Laing, and G. R. Brewis.

The meeting concluded with votes of thanks to the members of the honorary dental staff for their services during the past year, and to the Mayor for his services in the chair.

Abstracts.

Chemical Opening and Sterilisation of Root-Canals.

By A. C. HULL, D.D.S., Worcester.

AFTER putting on rubber-dam, I open into pulp-chamber with burs, &c. I then take a very small pellet of cotton with the pliers, saturate cotton with H_2SO_4 (sulphuric acid), and place in chamber. By capillary attraction and moisture, for which the acid has an affinity, it will draw up into canals ; I also assist it to enter channels by the use of a very fine Donaldson broach. I let acid remain about one minute, then neutralise by applying a strong solution of bicarbonate of soda ; this causes quite a violent reaction, and carbonic acid gas is liberated, and sulphate of soda is precipitated. By the generation of the above gas the canals are pumped free of any *dèbris* and broken-down lime-salts.

After this reaction has subsided I wash out with peroxide of hydrogen, 3 per cent.—this removes the crystals of sulphate of soda ; then proceed as before with another application of acid, and neutralise with soda, until I have opened two-thirds of the distance, or a little more, to the apex. I then substitute HCl (hydrochloric acid) for H_2SO_4 (sulphuric acid), and chlorinated soda for neutralising agent, in place of N_aHCO_3 (bicarbonate of soda). The reason for this change is that we are nearing a point where we are to take into consideration not only the tooth structure, but the tissues beyond the apex ; therefore I substitute HCl (hydrochloric acid), which has, in addition to its escharotic effect, disinfecting properties ; also, as a tonic and astringent it is of great value in the treatment of tissues beyond apex in cases of induration and soreness. In substituting chlorinated soda we get a fairly good reacting and neutralising agent, an antiseptic, deodoriser, stimulant and tonic for tissues beyond the apex, also a very good bleaching agent for tooth structure. The bleaching properties of the above are increased by the action of the acid, which liberates chlorine.

I use sulphuric acid at first, as it breaks down lime-salts more quickly, and bicarbonate of soda as a neutralising agent produces a more violent reaction and a greater amount of carbonic acid gas is liberated, which pumps out all *débris* from canals; but after it has performed this office, it has exhausted all its resources. By substituting chlorinated soda, I get its useful properties, already mentioned, and a reacting and neutralising agent that will do for the latter stage of the operation.

If there are indurated or inflamed tissues about the tooth, I have no hesitation in working just the point of the broach through foramina of buccal roots, which would carry with it a very little acid. This will not increase the irritation, but, on the contrary, will often relieve the same by cauterising the tissues and destroying germs of inflammation.

The only broach I have used with success in these operations is a very fine Donaldson, with the hook or angle cut off at point, making an extremely fine, straight and unbarbed broach. These have hard rubber handles and can be found at any dental depot.

For filling root-canals I use chlora-percha, quite thin; let it draw up into canals, then take a gutta-percha point on root-canal plugger and force the same into channel, which acts as a piston to carry filling to the apex.

In regard to care of instruments used during the operation, would say, I have on my operating table a strong solution of bicarbonate of soda into which I dip my instruments from time to time to neutralise acid.

This method will be found useful in treating cases the condition of which are like the following: a pulp which we have attempted to devitalise, and have succeeded in removing all but a small portion near apex, this being in an extremely sensitive condition and stubbornly resisting all treatment and medication. These cases cause great suffering to the patient and are a source of great annoyance to the dentist, but quickly yield to this method with very little or no pain to the patient.—*The Dental Digest.*

Two Cases of Adenoma of the Palate.

By HERBERT LUND, M.B., B.C.Cantab., F.R.C.S.

HONORARY SURGEON TO THE SALFORD ROYAL HOSPITAL.

CASE I. Mrs. L., age 37, a patient of Mr. Hughes, was first seen on July 3, 1894, and gave the following history of her trouble. In 1891, she first noticed, under the mucous membrane of the hard palate on the left side, a body about the size of an almond, which could be moved about easily, either with the finger or with the tip of the tongue. There was much lancinating pain in the tumour, and in the mouth generally, and as some carious teeth were supposed to be the cause of this pain, these were extracted from the left upper jaw, and the pain subsided somewhat. The patient was certain that there was a discharge of pus from the socket of one tooth which was extracted, and then the tumour diminished in size but did not disappear entirely.

Early in 1894 Mr. Hughes saw the patient, and as the tumour which was about one inch in its longest diameter, and a fourth of an inch in transverse diameter, appeared to fluctuate, it was freely incised. No pus exuded from the incision, only a little blood and broken-down tissue; and the pain remained as severe as formerly. Mr. Lund found as follows:—Situated entirely upon the hard palate upon the left side, an ulcer, 1 × $\frac{1}{4}$, with hard, rolled, everted edges, yellowish base apparently leading down to bare bone. No glandular enlargement. The patient looked delicate, and had been subject to neuralgia and rheumatism; there was also a history of malignant trouble in her family.

On July 6, under ether, with Mr. Hughes assisting, the ulcer was examined, to find, if possible, any communication between its base and the neighbouring alveolus, but without success. The whole mass was then removed with the scalpel and chloride of zinc (gr. xx. ad ℥j) applied.

On July 9 the pain had entirely gone, and on the 20th the wound was healed.

The mass removed was sent to Guy's Hospital for examination. The following was the report:—

"The growth is that of an adenoma of the palate which has become malignant and infiltrating. The epithelium at the edges has also commenced to infiltrate."

Case 2. Mrs. H., age 47, a patient of Mr. Simms, to whom I am indebted for assisting me at the operation and for permission to publish his case. For three years the patient had noticed a lump, which seemed quite soft, beneath the mucous membrane of the hard (and soft) palate, and during the last six months this had become much larger, and at times slightly ulcerated upon the surface. The lady's father has epithelioma of the scalp, and a brother also suffers from some malignant growth.

The tumour was about 1 × $\frac{1}{2}$ inch, slightly lobulated, adherent to the overlying mucous membrane, situated on the left side of the hard palate, and slightly encroaching upon the soft. No enlargement of glands, no particular pain, and no evidence of suppuration, although one spot upon the surface looked like an abscess pointing. The teeth upon the side affected had been removed, and there did not appear to be any irritation from that source. Believing the case to be a repetition of No. 1, I operated on May 25, removing the mass very freely. On June 24 a puckered cicatrix alone remained.

The pathologist at Guy's Hospital reported as follows:—

"In section the tumour is chiefly composed of large mucous glands, the duct of one of these being distinctly dilated; the mucous membrane shows a low, warty growth, but there is no indication of malignant disease."

Mr. Lund pointed out the extreme necessity of early operative interference in these cases.

New Inventions, &c.

Tabloids for the Production of Local Anæsthesia.

We have received from Messrs. Burroughs, Wellcome & Co., some "tabloids" for use in the production of local anæsthesia, by Dr. C. L. Schleich's method.

The proneness of anæsthetic solutions to decompose, even when antiseptic precautions are taken, is well known, but by the use of these tabloids fresh solutions can easily be made, and this disadvantage thereby obviated.

The following are the formulæ of the tabloids sent :—

No. 1. *Strong.*—	Cocaine hydrochlor. ...	1·5	grain.
	Morph. hydrochlor. ...	1·40	,,
	Sodium chloride	1·5	,,

One "tabloid" dissolved in 100 minims of water yields the "strong" solution.

No 2. *Normal.*—	Cocaine hydrochlor. ...	1·10	grain.
	Morph. hydrochlor. ...	1·40	,,
	Sodium chloride	1·5	,,

One "tabloid" dissolved in 100 minims of water yields the "normal" solution.

No. 3. *Weak.*—	Cocaine hydrochlor. ...	1·100	grain.
	Morph. hydrochlor. ...	1·40	,,
	Sodium chloride	1·5	,,

One "tabloid" dissolved in 100 minims of water yields the "weak" solution.

Chenisol—an Antiseptic.

A sample of this drug has been sent by Messrs. Kühn, of Eastcheap. The preparation is yellowish in colour and possesses a slightly aromatic odour and astringent taste. In cold water it is readily soluble, and in a solution of 1 in 40,000 prevents the development of the staphylococcus pyogenes aureus. It is non-caustic in its action, does not coagulate albumen, is absolutely non-toxic, and is an efficient deodorizer. In practice chenisol seems to bear out these properties, but it is difficult to speak of it definitely until it has been given a trial extending over a more lengthy period of time.

Miscellanea.

Epilepsy of Dental Irritation.

A case of epilepsy, traceable apparently to dental irritation, is recorded in the *Western Dental Journal* by Dr. J. D. Patterson. The patient in question was a child aged 8 years, who for a year before being seen frequently suffered with spasms or convulsions, which would come on without warning. At one time these contractions would force the fingers of the hand into unnatural and rigid positions, at times only one finger doubling up, and again all of the fingers clasped tightly, the nails leaving their imprint upon the palm. Similar contractions would appear on the toes of the feet. The usual methods of treatment having failed to give permanent relief, the question of dental irritation was inquired into. There were no canine teeth, but the permanent teeth were in various stages of eruption, and at the same time considerably retarded. Noting the points where irritation appeared from coming teeth and delayed shedding of deciduous teeth, the gums were lanced and the deciduous teeth removed where there was suspicion of irritation, with the result that the epileptic seizures ceased. This treatment was repeated whenever attacks supervened, the relief being always complete. Not until all the permanent teeth were completely erupted did the attacks entirely cease. The patient, at first a strong, healthy girl, became anæmic while the earlier treatment was of no avail, but rapidly improved when the relief from dental irritation was instituted. The epileptic spasms had not returned up to when the patient was last seen, namely, about three years ago.

Death from Chloroform given for a Dental Operation.

A death from chloroform given for a dental operation is announced in the *Lancet* of March 7. In referring to the case our contemporary remarks:—

"It is matter of no small regret that dental practitioners should not be better informed upon these matters than to permit the employment of chloroform upon their premises as an anæsthetic. There is ready to hand a safe and convenient anæsthetic in nitrous oxide gas, which fulfils all the requirements of the dentist, and this anæsthetic should in dental cases be resorted to rather than chloroform. Had this been done in the case given below there is little doubt that a valuable life might have been spared. A youth aged 15 required eleven teeth to be taken out to qualify him for admission into the Royal Navy. An appointment was made by a dentist with the youth's own medical man to give chloroform. We do not wish to pillory this particular gentleman, with whom we deeply sympathise, for the terrible disaster with which he is associated: we are aware that very many practitioners adopt the plan he resorted to, and recognise it as a routine procedure in dental operations. We must, however, most emphatically denounce it as a dangerous and undesirable one. Chloroform was administered from a towel—a method which easily induces an overdose of the anæsthetic—and the pulse was kept under observation. We read nothing of the respiration or the pupil, though doubtless they, too, were kept under observation. The dentist removed one tooth, and finding the second somewhat difficult some delay arose, during which the boy partly came round. The chloroform was re-administered and the remaining teeth were removed. Then the patient died. In a report which is before us we read that the medical man in his evidence said, 'Turning round again he noticed a change in the patient's condition.' It is significant how often 'going wrong' occurs when the back is turned. The necropsy — performed by an independent medical man—revealed, we are informed, the startling fact that on examination of this boy, who is described as being in 'perfect health,' and as having been passed for the Royal Navy at Headquarters, except as regarded his teeth, that his lungs were in such a condition that 'the boy could not have lived above two years.' Surely no lesion so serious could have escaped the examination at headquarters and that of the medical man who expressly states he scrutinised the lad before giving the chloroform. The posture of the patient is not mentioned; probably the boy was in a dentist's chair—a position of body unsuited for the administration of chloroform."

A death, also the result of chloroform given for a dental operation, is recorded in the *Westminster Gazette* of March 5. In our next issue we hope to publish details of the case.

The Teaching Museum of the Dental Hospital of London.

Progress has been made in the formation of the Teaching Museum at the Dental Hospital of London. A case is being arranged to show the abnormalities in form and position of the teeth, but the collection and sorting of the requisite material is of necessity a slow matter. We understand that typical and rare specimens will be gladly welcomed from old students of the school, who have some to spare. A case illustrating the manufacture of teeth and dental rubbers has been promised by the Dental Manufacturing Company, and Mr. Howard Mummery, Mr. Hopewell Smith and Mr. Douglas Caush have each undertaken to contribute series of microphotographs illustrating points in dental anatomy, normal and pathological. A number of plates, the gift of Mr. Harry Baldwin, illustrating dissections of the head and neck, have already been mounted and hung in an excellent pedestal frame case. The particular feature of this Museum is that each exhibit shall be of teaching value, and for this purpose be accompanied by sufficient explanatory letterpress. As far as is possible exhibits will be arranged in series, which it is wished to make as complete as possible, so that in time the collection may become a pictorial representation, not only of the anatomy and pathology of teeth and associated structures, but of methods of practice, both mechanical and surgical.

Dental Hospital of London Building Fund.

The following new donations have been received for the Building Account of the new Dental Hospital of London, Leicester Square, since the last list published in the Journal:

Mrs. R. O. Burnett ...	£1	1	0	J. Leon Williams, Esq....	£5	5	0
Lady Elizabeth Byng ...	1	1	0	John Sinclair, Esq. ...	1	1	0
Mrs. S. Mary Green ...	1	1	0	J. B. Thomas, Esq. ...	1	0	0
Miss Bentley	1	1	0	Mrs. A. B. Stevens ...	10	10	0

Mrs. Tiarks	£1	1	0
Mrs. F. Grove	1	1	0
Miss Watson	1	1	0
Henry Times, Esq. ...	1	1	0
Mrs. Whiteley	2	2	0
Mrs. B. Nandor... ...	2	2	0
Vernon Lushington, Esq.	2	2	0
J. Murray Davis, Esq. ...	1	1	0
R. Welsford, Esq. ...	1	1	0
H. W. Trinder, Esq. ...	1	1	0
Dr. Reboult	1	1	0
Lieutenant-Col. Larkins-Walker	10	10	0
Duncan Mackinnon, Esq.	10	10	0
T. Andros de la Rue, Esq.	21	0	0
Mrs. Longman	5	0	0
Mrs. Ernest Gray ...	10	10	0
Arthur Brooks, Esq. ...	10	10	0
G. H.	2	2	0
M. B.	1	1	0
Miss Gaitskell	5	0	0
Samuel Barker, Esq. ...	2	0	0
Messrs. J. & R. Morley...	5	5	0
Mrs. Stracey	1	1	0
The Worshipful Company of Cordwainers ...	21	0	0
Mr. Wainwright... ...	1	1	0
Nigel M. Smith, Esq. ...	2	0	0
John Charles Salt, Esq....	10	10	0

J. Woulfe-Flanagan, Esq.	£5	5	0
Colonel Fitzgerald ...	1	1	0
Miss Druce	10	10	0
W. Piper, Esq.	5	1	0
Messrs. Bowman & Crawley-Boevey	5	5	0
The Worshipful Company of Dyers	2	2	0
Lieut.-Col. The Hon. G. H. D. Windsor Clive	10	10	0
H. Lloyd, Esq.	10	10	0
Miss Elliott	1	1	0
Leopold de Rothschild, Esq.	5	5	0
The Hon. W. F. D. Smith, M.P.	5	0	0
Mrs. Innes	1	1	0
Lady Montague Pollock...	1	1	0
George Gibbs, Esq. ...	1	1	0
The Earl of Lovelace ...	2	0	0
D. S. Arnett, Esq. ...	1	1	0
Mrs. A. Willis	1	1	0
C. N.	5	0	0
Mrs. W.	2	10	0
Sums under £1	1	5	0
Donation Boxes at Hospital	3	6	6
Private Donation Boxes	14	1	5

Correspondence.

We do not hold ourselves responsible for the views expressed by our correspondents.

Solila Gold (Dr. de Trey, Basle).

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—Mr. Manton's article in the February Journal induces me to sound a note of warning.

When the first practical sponge gold was produced, viz., Watts' crystal gold, it was thought by many that it could be rapidly packed into cavities like amalgam, and that good results would follow. Experience has proved this to be a great mistake, and although the directions now sent out with this gold state that it must be worked as carefully as any cohesive gold, there are still many dentists who are prejuduced against it, and consider that failure to do good work with it is due to the preparation itself instead of to its improper manipulation. Of late years several preparations of sponge gold have been produced, and it is claimed for nearly all of them that their use will make gold filling easy and rapid. I have had considerable experience of Watts' crystal gold, and I have tested many of the newer preparations, and I find they must be worked even more carefully than foil if the best result is desired. Every skilful operator will have an average time for filling any given cavity, and an abbreviation of this time must come from spending less time on condensing the gold.

The reason that soft gold fillings are so rapidly made is simply because large masses of gold are pressed in place by a few thrusts of a broad-faced plugger, and are consequently imperfectly condensed. The subsequent surface pressure produces a surface hardening, but if this cut away the body of the filling is found to be of very poor consistence. I have often, after pressing a large pellet of soft gold to place in the usual way, then set to work to condense it as thoroughly as possible with fine points, and I have found that to do this takes up as much time as packing an equal weight of cohesive gold. Absolute cohesion and solidity of the whole of a filling is in many cases unnecessary, but owing to the very porous structure of sponge gold its thorough condensation throughout the whole of the filling is of more importance than if foil is used. If it is desired to produce as perfect cohesion and solidity as possible, with both sponge gold and foil, it will be found that the former demands even more time and care than the latter.

It is too early yet to criticise "Solila gold." It appears to me to be an excellent sponge gold, but the experience of the past with regard to all similar preparations leads me to advise every one who may use it not to blindly accept it as a kind of gold putty that may be easily stuffed into cavities, but at first, at any rate, to "go slow," and work it with the same care that is usually given to cohesive foil. I should very much like to know the object of the piece of foil that is placed between the two layers of Solila gold. Is this of any practical value?

Yours faithfully,

W. C. G.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—The demonstration given by me last August in Edinburgh with Dr. de Trey's Solila mat gold appears to have interested members of the British Dental Association, for over eighty have written me respecting the same. It is almost impossible to reply fully to every inquiry, therefore I am trespassing upon our editor's good nature for space to supply fuller details.

The following directions are enclosed in each package; careful attention and strict adherence to same in working will make the successful manipulation of the gold very easy.

DIRECTIONS.

De Trey's mat-gold "Solila" must be well annealed in order to utilise properly its cohesive power and ductility. This is best accomplished on a piece of mica or directly over a strong alcohol-flame or a gas-flame. It should be heated slowly, on both sides, until it assumes a browner colour. For the bottom and walls of the cavity it can also be used unannealed.

A trial on teeth outside of the mouth will be the best way for the operator to learn quickly the manipulation and the qualities of this gold.

Use large pieces at first of number 1 or 2, pressing them lightly against the bottom of the cavity with a plugger corresponding to its size ; then proceed with heavy hand-pressure, or, if preferred, with the automatic, Snow and Lewis's or Abbott's, or the hand mallet.

This gold combines very readily with tin, for use in cavities that extend under the gum, and forms an antiseptic and non-conducting mass suitable for use next to sensitive dentine at the cervical margin.

To facilitate its use for small cavities in hands inexperienced in the use of it, it is advisable to cut it into small squares, or to roll it, like amalgam, into small pellets suited to the size of the cavity. Since it becomes extremely hard under manipulation, it is important to introduce no more than the exact amount necessary to fill the cavity completely, in order not to waste time in finishing. A piece of the size of an ordinary gold cylinder represents about six times the volume of one. It condenses as easily as amalgam and adapts itself, upon pressure, so thoroughly to the walls that even inequalities not visible to the naked eye are filled completely. Retaining-points are entirely unnecessary, the small grooves formed by the cross-cut burs are quite sufficient.

This gold adheres strongly by mere pressure to every rough surface of noble metal, and owing to this peculiarity can be used in bridge-work and for the repair of gold plates where solder is impracticable, and to avoid the warping of the piece.

For the manipulation of this gold, pluggers of special shape and cut are required. After three years' use, I have found a set of eighteen for hand-pressure, and of six for the automatic mallet, sufficient for all cases. On the strength of many experiments, I would advise operators not to use other pluggers than those above indicated ; the employment of other instruments would make the success of the work uncertain, if not impossible. The manipulation is most rapid with hand-pressure, which, besides being more agreeable to the patient, avoids the danger of cracking the enamel borders.

This gold should be kept closed tightly from light and dust in order to preserve its special qualities.

In giving the demonstration at Edinburgh, though I had Dr. de Trey's special pluggers with me, yet to demonstrate the ease with which the gold could be worked, I used, from start to finish, only one instrument, viz., a Ladmore's smooth-faced amalgam filler. I now regret having done so, for most of my correspondents seem to think I used it as being the best possible instrument for the purpose. Such is not the case, for though Solila gold can be satisfactorily and easily condensed with any plugger, yet after considerable experience, I strongly advocate the use of the special pluggers devised by Dr. de

Trey, as much better work with less expenditure of force and greater economy of time is effected.

In applying pressure with De Trey's pluggers, a little knack is soon acquired by which a rolling motion is given to the instrument. The faces all being more or less rounded, only the portion of gold immediately under the most convex part of the plugger face is condensed at the moment of pressure, but by turning—or rather rolling—the instrument in any direction, and maintaining the pressure meanwhile, instead of condensation being in one spot only, as would be the case from a thrust or push, thus (·), the rolling motion causes a condensation of the gold all along the part traversed thus (—). The principle is clearly seen by rolling a marble over a piece of soft wax, pressing it at the same time.

Solila gold is put up in four numbers—1, 2, 3, 4 ; only Nos. 2 and 4 are necessary for general use. I need not describe methods of using it, as that is done so fully and clearly by Mr. Manton in the February Journal. When I gave the demonstration the gold was not on the English market, and could only be obtained from Messrs. Koelliker & Co., of Lyons, along with a set of pluggers with the first order. I have had some correspondence with Dr. de Trey, and now I understand that restriction is removed. (Correspondents, please note.) The gold is now obtainable in this country from Messrs. Ash & Son and the Dental Manufacturing Company, and as the new works at Lausanne are now in full working order, regular supplies of uniform quality may be relied upon.

I would strongly urge that a few cavities be filled out of the mouth first, otherwise, owing to its volume being so deceptive compared with cylinders, errors are easily made, and the gold once properly condensed requires some grinding away.

In December last a correspondent wrote me :—"I have now filled about thirty teeth with De Trey's gold, and think it fine. The first one was very amusing. I placed my first two pieces, and in consequence of the density being so much greater than Wolrab's, I almost filled the cavity. Thinking it impossible that it could be properly consolidated, I thought this must come out ; when I proceeded to attempt to rake it out, I to my surprise found it as solid as if it were melted in place." Further on he writes :—"I got a set of De Trey pluggers, and they certainly pack the gold better than any other pluggers used with hand pressure. With this gold I am filling cavities that I would not otherwise have used my eyes, back or time upon, and such as I have not filled since I left college, and most heartily I thank you for introducing it to my notice." Many other letters received by me are written much in the same strain.

I may suggest that should any of the gold crumble in small fragments or dust, or become unusable from exposure or otherwise, place it in a bottle and well wash with absolute alcohol a few times, evaporate the spirit, collect residue and anneal; then either use it as it is, or take small pieces of thin gold foil, lay upon amadou, and indent centre with rounded head of a knurled handle, fill depression with the gold fragments, wrap the corners over the top to hold contents together, and use for filling centres of large crown cavities; by this means much gold otherwise wasted is rendered equal to new.

If there are any questions asked by my numerous inquirers still unanswered in the above, please communicate with me; and should other members have useful information concerning the working of the gold, perhaps, with the Editor's permission, they will reciprocate through the pages of the Journal.

Yours truly,
J. CHARTERS BIRCH, L.D.S.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—As some time has elapsed since I wrote the short article on "Solila Gold as a Filling Material," which you have just printed in the JOURNAL OF THE BRITISH DENTAL ASSOCIATION, will you be good enough to let me make two corrections necessitated by lapse of time.

(*a*) The full set of pluggers has developed from fourteen (see page 87, current number of journal) to thirty-three.

(*b*) The gold may now be obtained from the Dental Manufacturing Company, London, as well as from the firm I mentioned in the article.

I make this latter correction in case any one wishing to try it is deterred from so doing by the difficulty in obtaining it—a difficulty, as you see, no longer existing.

I am still as pleased with it as ever. In dealing with cases of fragile and brittle tooth structure, and using plain hand-pressure, I find it particularly useful, being no more bothered by the fears of cracked and bruised enamel when my filling shall be finished—fears which, I venture to affirm, sometimes become eventualities in working with the ordinary cohesive golds, even in the hands of the most expert and conscientious.

I am, faithfully yours,
EDWARD A. MANTON.

14, *Grande Rue*,
Boulogne-sur-Mer,
February 21, 1896.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—Mr. Edward Manton's article on this subject in your issue of February (paragraph 2, page 86) seems likely to create the impression that the gold is not to be obtained here.

We beg to say that we have a good stock of this gold, and as the information may save the English dental profession the inconvenience of delay in sending abroad for it, we shall be glad if you can find space for this letter.

We remain,
Your obedient servants,
THE DENTAL MANUFACTURING CO., LTD.
(J. Ellison, Joint Manager.)

Books Received.

The Birmingham Medical Review, The Medical Press and Circular, The Dental Record, The Dental Register, The Transactions of the Odontological Society of Great Britain, Deutsche Monatsschrift für Zahnheilkunde, The Chemist and Druggist, The Pharmaceutical Journal, The Dublin Journal of Medical Science, Items of Interest, The Students' Journal of the Liverpool Dental Hospital, The International Dental Journal, L'Odontologie et la Revue Internationale d'Odontologie, The Pennsylvania School Journal, The Birmingham Daily Mail, The "Shikwa-igaku-sodan," Handelingen van het Nederlandsch, Tandheelkundig Genootschap, The Ohio Dental Journal, The Transactions of the Students' Society of the Dental Hospital of London, The British Journal of Dental Science, The Dental Record, Guy's Hospital Gazette, The Dominion Dental Journal.

Letters and other Communications received from :—

J. Charters Birch ; The Registrar, Royal College of Surgeons in Ireland ; Dr. T. Polak ; F. J. Brislee ; W. Cass Graystone ; J. Charters Birch ; Traer Harris ; G. M. Keevil ; J. Butterworth : R. Theodore Stack : Frank V. Richardson.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the monh.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL

OF THE

BRITISH DENTAL ASSOCIATION

A

MONTHLY REVIEW OF DENTAL SURGERY.

No. 4. APRIL 15, 1896. VOL. XVII.

Dental Anæsthesia.

THE work of the Society of Anæsthetists has an absorbing interest for dental surgeons; the Society itself is so strong in all that is truly scientific and truly practical, and the matters with which it is concerned affect us all so closely, that outside the Society itself it is probable that its records nowhere receive such close attention as from our own readers.

Every dentist is aware that the anæsthesia of N_2O is occasionally insufficient for dental operations, and anæsthetists are therefore anxious to discover some equally safe agent which will give a little more time. Chloroform we are more shy of than the *Lancet* seems to believe, in fact, the wild generalisations in which our contemporary indulged (March 7) in an article quoted at length in our last issue, are somewhat beyond the mark, for we believe there are scarcely any dental surgeons in England who encourage the administration of chloroform in the dental chair.

What is required is an agent capable of yielding a longer period of unconsciousness than can be obtained with nitrous oxide alone, and which shall be free from the discomfort in inhaling, and the annoying after-effects so frequently complained of when ether is administered, either in combination or in succession to nitrous oxide.

The administration of nitrous oxide mixed with air, or with oxygen, has certainly been a very great advance in the right direction, yielding a longer and more tranquil anæsthesia, of especial service for dental purposes ; but frequently a still greater prolongation of the unconsciousness is desirable.

Most anæsthetists are of opinion that when a long anæsthesia, is required the addition of ether is in the vast majority of cases by far the safest means of obtaining the extra time. Chloroform we are all aware is largely used in the north of England and in Scotland for dental operations—it is certainly easy of administration, and requires practically no apparatus ; but if we rightly interpret modern expert opinion, there is an increased danger to life to which the patients are subjected under its influence ; if chloroform is considered desirable in any case, the risks may be minimised if it be administered at the patient's home, and all precautions with reference to diet, position, and clothing, &c., strictly adhered to as is customary in ordinary surgical practice.

Many dentists refuse, and in our opinion wisely, to permit the administration of chloroform in their rooms, and also anæsthetists have been known to decline to administer this drug to a patient in the dental chair.

The announcement of deaths from chloroform in the dental chair are far from infrequent, and the belief is gaining ground that the drug should never be exhibited while the patient is in the sitting position.

The most recent paper on this subject was read before the Society of Anæsthetists, in February, by Dr. Prince Stallard of Birmingham, entitled, " Pental, its Administration in 150 Cases, with an Account of one Death whilst under its Influence." Pental is a purified form of the amylene formerly administered by Dr. John Snow, to whom we are indebted for most of our knowledge of its physiological and clinical action on the human subject. Dr. Snow reported two deaths in 238 administrations of amylene. The administration of pental is exceedingly simple : about two drachms are poured into Clover's small portable inhaler, or an Ormsby's inhaler, the indicator is placed at O, and the face-piece applied to the patient's face ; the dome is then evenly and rapidly turned to 1, 2, 3, in succession, rarely to F, no breath of air being allowed, and after an average inhalation period of 56 seconds, the patients become anæsthetised—the resulting period of anæsthesia, about 76 seconds. The extremes were 30 to 120 seconds for the pre-anæsthetic stage, and 25 to 210 seconds for the anæsthetic period. The drug, even when pure, has an objectionable odour of rotten eggs, but curiously, those who have inhaled it do not complain of the smell.

There is no coughing or struggling during the inhalation, and the anæsthesia obtained is very tranquil ; the pupils dilate, and the countenance becomes flushed ; the arm, when raised, falls helplessly to the side ; there is no cyanosis or stertor, and opisthotonos very rarely present ; micturition and defæcation were never observed ; spasms, clonic and tonic, were noted in several cases, and screaming was frequent. No restrictions were placed upon the patients with regard to food, and in only one case was there after-vomiting present. The recovery was extremely rapid, with marked absence of after-effects, the patients feeling quite well, and able to walk away three minutes after the operation.

Reading the above brief account of pental and the anæsthesia obtained by its use, one would imagine that the ideal anæsthetic for dental surgery had at last been found; but when we turn to the statistics at our disposal, viz., Gwilt, three fatalities in 600 administrations; Stallard, one in 149; and including Snow's two in 238, we find six deaths in 987 cases, or one in 164·5 administrations, which truly is of very alarming significance; and we note in the author's paper, as if in explanation of the above, "at the height of anæsthesia the pulse becomes small, and may be running," and "the breathing can hardly be heard"—symptoms of failing circulation and respiration, which the anæsthetist views with alarm when occurring under any anæsthetic, and which, from their very insidiousness with this anæsthetic, constitutes its dangers, even in skilled hands.

The fatal case presented symptoms which one would expect after reading the above, viz., sudden pallor of the face, followed by cessation of respiration and circulation; the usual remedies of resuscitation were tried without any result.

Such drugs as bromide of ethyl and pental, which are very similar in many respects, are said to be very unstable in their composition, and apt to undergo decomposition when once the bottle containing them has been opened, and therefore we are cautioned that it should be kept only in small quantities, and the residue left in the bottle thrown away, not being corked up and kept for administration on another occasion. Pental is very like chloroform in many respects, especially its action upon respiration and circulation, and therefore it may justly be argued that it should be administered with the patient in the horizontal position, and not in the dental chair.

It appears to us to be a great pity that cardiac depressants such as bromide of ethyl, pental, &c., should be administered to patients seated in a dental chair, before the exact action of such drugs has been accurately determined by frequent and prolonged use in surgical practice. In the one case the patient being in the worst possible surroundings, and in the other in much more favourable circumstances for testing the properties of the drug; in the former case almost upright, and in the latter in the recumbent position. The reason probably is, that tooth extraction is looked upon as a trivial operation, requiring but a very short anæsthesia, and that therefore the risk is likewise trivial; but this we all know to be a fallacy.

The dental profession would be consulting their own interests, and conferring a boon on humanity at large, were they to insist that in every case when an anæsthetic has to be administered for them which is liable to cause cardiac depression—as is undoubtedly the case with such drugs as chloroform, bromide of ethyl, pental, &c.—the patient should be placed in the dorsal, latero-dorsal, or lateral position.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

Eastern Counties Branch.

At a meeting of the Council held on Wednesday, March 25, it was decided to hold the Annual General Meeting at Ipswich, on Saturday, June 27—President, R. P. Lennox; President-elect, W. A. Rhodes.

An invitation was received from two Dutch Dental Societies, the Nederlandische Tandmeesters Vereenigeing and Nederl-Tandeelkundig Genootschap, who are going to hold a combined meeting at Amsterdam, to join in their proceedings.

It was unanimously resolved to accept the invitation.

The proceedings will be in English, and various suggestions are made for the entertainment of English visitors.

It is proposed to cross to Amsterdam on Saturday night, after the Ipswich meeting, returning on Monday night.

The Hon. Secretary will be glad to hear from those willing to assist in any way at either meeting, or who intend being present either at Ipswich or Amsterdam.

W. A. Rhodes, *Hon. Sec.*
(A. Hopewell Smith, *Hon. Sec. Elect.*)
3, *Silver Street*, *Cambridge*.

Western Counties Branch.

A meeting of the Council of the above Branch will be held at the Bedford Hotel, Tavistock, on Saturday, May 9, at 3 p.m. At 4.30 a general meeting of members will be held. It is hoped that some interesting communications will be made.

T. A. Goard, *Hon. Sec.*

Southern Counties Branch.

The next meeting will be held at the Dispensary, Queen's Road, Brighton, on Saturday, April 18, 1896.

2 p.m.—Council Meeting.

3.30 p.m.—Demonstrations: "Porcelain Inlays," by Mr. J. H. Redman, L.D.S.I., D.D.S.Phil.; "Crystal Gold Filling," by Mr.

Morgan Hughes, M.R.C.S., L.D.S.Eng.; "Porcelain Crown," by Mr. T. H. Elliott, L.D.S.Glas.

6 p.m.—Dinner at Messrs. Booth's Restaurant, East Street.

Application for tickets (4s. 6d.) should be made on or before April 13, to the Hon. Sec.

Members who have not paid their subscriptions are reminded that they became due on January 1, and are requested to pay them to the Hon. Treasurer, Mr. J. H. Redman, 61, Old Steine, Brighton.

FRANK V. RICHARDSON,
Hon. Sec.

1, *Sillwood Road, Brighton.*

Original Communications.

Notes on Fractures of the Maxillæ and Mandible.*

BY J. DENCER WHITTLES, L.D.S.Eng.

I DO not pretend in this paper to bring before you any invention or new treatment of my own, but to put in a few words all that is practically necessary to know in treating fractured jaws from a dental point of view. I consider that nearly all fractured jaws should be treated by a surgeon, with the assistance of a dental surgeon. In fact, I go so far as to state that no surgeon should treat a fractured jaw without first consulting a dental surgeon as to whether he could not make and adjust a suitable splint for the greater comfort and benefit of his patient. It has been, is, and always will be, I am afraid, a vexed question amongst those who practise our branch of the science and art of surgery, as to the limits of our sphere of operations. Some hold that we ought to confine ourselves to operations strictly concerning the teeth, and would like to draw a line along the alveolar border, and bid us go thus far and no farther. Others, again, maintain that it is quite within the province of the dental surgeon to perform operations—like cleft palate—which, though not strictly dental, are best undertaken by one accustomed to work in the confined space of the oral cavity. However that may be, I expect there will be few here who will not consider the dental surgeon to be the right man to treat cases of fracture of the jaws.

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* A paper read before a meeting of the Central Counties Branch of the British Dental Association, held at Birmingham on November 28, 1895.

A fracture is defined by the various text-books on surgery as the sudden and forcible solution of continuity of a bone, and when such a condition affects that limb which we term the mandible, my opinion is that the definition should be supplemented; that it is almost the complete dissolution of those functions, imbibition, mastication, articulation, &c., which really make life worth living.

The subject before us naturally divides itself into two: firstly, fractures of the upper, and secondly, fracture of the lower, jaw. I will take the upper first, as being less common, and then proceed with the latter.

Fractures of the superior maxillæ are usually met with in severe smashes of the face, such as run-over cases, accidents caused by machinery, &c. These are difficult to rectify, and some deformity may remain. Although much comminution may occur, serious necrosis, in consequence of the great vascularity of the parts, rarely results, though detached spiculæ of bone often exfoliate. Fractures of a simpler nature may be occasioned by a blow of slight force, or even the extraction of a tooth, if the maxilla is in a weakened condition from disease. This is a model of such a case, in which the patient had been suffering from acute periodontitis of the first upper right molar, which was extracted at the Dental Hospital. A few days after he had the second molar of same side removed by a dentist, who was unfortunate in bringing away almost the whole floor of the antrum; severe hæmorrhage ensued, and he had to be warded at the General Hospital for some days.

Generally there is not much displacement, owing to the fact that the jaws are immovable, and very slight muscular action possible. Of course the force of the blow may cause a great deal of displacement, and this is usually the only cause of the displacement present. The fragment may either be driven outwards, as instanced in this case of a boy, aged 9, who fell whilst running, and came violently in contact with a step ladder lying across the garden path. Some idea of the force with which he fell can be estimated from the fact of a deep indentation which he caused with his incisors upon the pine wood of the steps. He fractured the hard palate through the sutures uniting the inter-maxillary bones to the two maxillæ, tearing the anterior palatine vessels. A blow from a fist, a thrown cricket ball, have been the means of displacement of the fragment backwards, as seen in these models of cases which have come under my treatment.

All that is generally necessary is the reduction of the fracture and fixation by means of a splint, its form having to be determined upon the position and nature of the fracture, such as in the case of a dislodged tuberosity; a special cap will have to be struck up in either gold or dental alloy and fixed to a collar or band to encircle a neighbouring tooth. Two such cases have come under my notice (in which advertising dentists have been the culprits); one patient was unable to hear at all on the affected side for some time, due to the breaking off of the tuberosity and its attached hamular process. In other positions simply wiring the tooth may suffice, but it is far better to either make an inter-maxillary splint, or strike up a metal cap and fix this on with an osteo-cement until union has taken place.

Before leaving this part of my paper, I must mention a very much comminuted compound fracture through the median line of the hard palate, which interfered so much with deglutition for three or four days that the patient had to be fed by a tube passed through the nares.

Fracture of the mandible is nearly always the result of considerable direct violence, such as a kick from a horse or of an iron-clad boot of a biped, a fall from a height, a blow from a fist, &c.; small pieces of the alveolus are often unavoidably broken in extracting teeth, but a complete fracture may occur during extraction by unskilled persons. It is said that fracture has resulted from muscular action, but such an occurrence is extremely rare; a case is related by Mr. Christopher Heath, in which fracture of the neck of the bone had resulted from a violent fit of coughing in an old man upwards of 70 years of age.

Unavoidable accidents during the extraction of a tooth have occurred and have been made the ground of legal proceedings against the operator; but most unfairly so, since the exercise of the greatest skill and care cannot on all occasions prevent mishaps due to the natural conformation of the parts.

On this subject, which is of considerable interest to those practising dental surgery, I may, with your permission, quote a passage from a paper in the *Dental Cosmos* by Dr. J. Richardson, illustrating the difficulties which may be met with. He says :—

" I have never come to regard extracting teeth as an operation free from liability to grave complications. I seize hold of a tooth to-day with more misgiving, with more caution, than I did the first year of my practice. Eleven years' experience may be supposed to have given me some confidence and expertness in this operation, yet with each year's added experience the operation grows in importance, and dictates greater vigilance and prudence. I feel my way through the operation with more and more caution, guard every movement with greater circumspection, and magnify my skill more and more with every success. Through eleven years my experience has been free from serious accident, but the catastrophe came at last when I had no possible reason to expect it.

" Within the past two months I fractured the inferior jaw severely in attempting to remove the anterior right inferior molar. It was in this way. The patient was a lady about 25 years of age. The crown of the tooth was very much decayed, but I had a firm hold upon the neck. Alternate lateral traction was made upon the tooth, moderately at first, but increasing with every movement of the forceps. There seemed to be complete immobility of the tooth until the instant of its giving way, which it did with the outward movement of the forceps. I comprehended instantly, from the enlargement of the gums below the processes, that a fracture of the mandible had occurred. On examination I found the detached portion adhering firmly to the fangs of the tooth, and extending antero-posteriorly about an inch and a-quarter, and in depth about three-fourths of an inch or more. I made no further attempts to remove either the tooth or fragment of bone, but pressed them firmly back to their places, and directed the patient to keep the mouth persistently closed."

Varieties.—Most fractures of the mandible are compound towards the mouth, on account of the muco-periosteum being so intimately connected with the bone; it is torn, and so admits air from the mouth. When a fracture occurs in a part of the bone not in direct relation with the buccal cavity it is usually simple, unless it results from a penetrating wound or gun-shot injury. The fracture may be simple, multiple, or comminuted.

It is to be regretted that it is impossible to gather any reliable details respecting the position of recent fractures of the lower jaw occurring in the various hospitals, and as this fracture is rarely a fatal accident *per se*, the hospital museums contain comparatively few specimens. Even the College of Surgeons does not possess a specimen of recent fracture of the lower jaw, and only a doubtful one of united fracture near the angle. St. Bartholomew's, St. Thomas's and Guy's Hospitals have one specimen each, and King's College Hospital has four. Unfortunately we Britishers are too sentimental, otherwise more material for illustrating such a paper as this would be available. Within the last fortnight, a case of injury to the jaws occurred on the railway at Waterbiton, a few miles from this town, which was fatal, and I made inquiries to learn if it would be possible to get the specimen, in this case a rare one—that of dislocation of the temporo-mandibular articulation—even if I made good the place of the removed joint with putty, and sewed up the flaps in the neatest of ways; it was denied me. Perhaps as time passes this state of things will change, and man may become more rational.

Situation.—The various sites of fracture are:—(1) At the symphysis; (2) through the socket of the canine tooth; (3) through the mental foramen; (4) at the angle through the neck of the condyle; (5) through the coronoid process. The commonest situations are the mental foramen and the socket of the canine tooth, but very seldom at the symphysis and at the angle.

Symptoms.—These are ordinarily well marked, since even in simple vertical fracture of the symphysis the patient will be conscious of pain and slight crepitus on pressing the jaws together, and the dental surgeon will readily perceive the irregularity of the teeth due to the alteration in the level of the fragments. The position of a patient with fracture of the jaw is most characteristic, since he endeavours to support and steady the fragments with his hands in the most careful manner, and his anxiety for relief is often most ludicrously complicated by his inability to explain by word of mouth what his ailment is. The usual symptoms are pain, deformity, preternatural mobility, crepitus, loss of function, bleeding from the gums, and profuse dribbling of saliva. The pain is usually severe, more so than in most fractures; its severity is partly due to the laceration of the gums, and partly to injury to the mandibular nerves, and is increased on masticating, swallowing or speaking.

When a single fracture occurs on one side of the median line, the smaller fragment is liable to displacement by muscular action, being drawn outwards and at the same time a little forwards, so as to overlap the larger fragment. This is due to the action of the temporal and masseter muscles, but principally to the latter, and is favoured by the generally oblique direction of the line of fracture and consequent tendency of the bones to over-ride, as pointed out by Malgaigne.

In double fractures of the body of the jaw, one being on each side of the median line, the displacement is necessarily greater, since the muscles attached to the chin tend to draw the central loose piece downwards and backwards towards the hyoid bone, whilst both lateral portions are drawn forwards and outwards. When, as is probably the case in most instances of the kind, the obliquity of the fracture is the same on the two sides, *i.e.*, at the expense of the outer surface of both extremities of the central fragment, no difficulty is experienced in reducing the fracture, and it is only necessary to see that the posterior fragments are sufficiently approximated to the central portion; but when the obliquity is different on the two sides, the fracture being at the expense of the outer plate of the posterior fragment on the right side, and the reverse on the left side (consequent, no doubt, upon the blow having been struck to the left of the median line), it is obvious that great difficulties will be encountered both in reducing and maintaining the apposition of the fragments, as indeed was the case with a patient, a woman suffering from epilepsy, who was run over by a heavy omnibus, the sites of fracture being obliquely through the mental foramen on the right side and through the angle on the left side.

Malgaigne records an almost similar case in which reduction could not be effected. "The middle fragment, which was strongly drawn downward and backward, was easily brought forward nearly to a level with the other two, but when it came close to that on the right side it seemed to catch against its posterior surface, as is seen in the figure shown on the screen, and no effort could disengage it. On *post-mortem* examination the right fragment in its upper half was bevelled at the expense of the external surface, the middle one at the corresponding part at the expense of its internal face. This bevelled edge opposed an almost insurmountable obstacle to its disengagement; there was an overlapping of the edges of which one would have no idea. And even after death we found that, to effect the reduction, it was necessary to carry the middle portion downward and forward, so as to carry it first below and then in front of the other."

Fracture of the ramus is usually produced by some crushing, such as by the wheels of a vehicle. There is little displacement, owing to the deep situation of the bone, and the fact of its being supported on each side by the masseter externally, and internally by the internal pterygoid muscles.

Fracture of the neck of the condyle is generally caused by a fall from a height. Symptoms are obscure, there being pain and difficulty of movement on the affected side and crepitus perceived by the patient. I was interested in a case of this nature which was occasioned by a youth coming "a cropper" from a tall ordinary bicycle whilst descending a hill in Derbyshire. He was treated by a nurse at a Cottage Hospital—who thought it of too trifling an injury to call the attention of the surgical staff thereto—as an ordinary contusion. To-day this patient is in the position of possessing one true and a false joint, since bone union has not taken place at the site of fracture. So that when he opens his mouth there is about an inch and a-half's difference in the level of the inferior border of his lower jaw, on comparing the two sides, for his jaw immediately becomes unilaterally subluxated when his mouth is opened, which gives him a very one-sided appearance.

The condyle is drawn inwards and forwards by the pterygoideus externus, as can be ascertained by passing the finger into the mouth, and the jaw bone is apt to become slightly displaced, so that the chin is turned *towards* the affected side, and *not from* it, as is the case in dislocation.

If the line of fracture runs through the coronoid process the loosened fragment is drawn up by the action of the temporal muscle, and this is the most painful fracture that occurs to the jaws, and of necessity not capable of being treated with a dental splint; I would suggest wiring obstinate cases, although the operation would be somewhat formidable on account of the depth from the surface to reach the injury in the zygomatic fossa.

There is generally considerable inflammation following a fracture even of a simple kind, particularly if it has been neglected or overlooked for some hours. The face becomes swollen, and the tissues beneath the chin infiltrated with lymph, which is sometimes converted into pus, giving rise to troublesome abscesses.

I shall only touch very briefly upon the complications which may occur after fracture of the mandible, and spend the remainder of the time in the treatment of this painful injury.

Hæmorrhage.—This may be either primary or secondary; this latter is the most troublesome, and should any of you be placed in a similar dilemma, give your patient vinegar and ice-cold water to wash the mouth out—it acts like a charm, and, moreover, is to be found in most households.

In one case it is recorded a traumatic aneurism formed, which necessitated the tying of the common carotid.

Wounds of the face are said to be rare, but I have had some troublesome ones, two being of a very much lacerated character, involving skin and mucous membrane; another a perforation of cheek more than an inch wide, besides minor cuts. Dislocation is extremely rare in cases of fracture.

Injury to the teeth.—One or more teeth in the vicinity of the fracture are occasionally broken, exposing live pulps, which greatly adds to the discomfort of the patient; or a tooth may be dislocated from its socket and interposed between the broken ends of the bone, interfering with the process of union.

Damage to the mandibular nerve may occur at the time of the accident, or subsequently from pressure of the callus, causing anæsthesia or neuralgia in the region supplied by that nerve.

Injury to the base of the skull.—The condyle has been known to be driven through the glenoid cavity, and inflict fatal injury to the brain.

More or less necrosis may result from complete separation of a fragment from its vascular connections at the time of the injury, or subsequently, as the result of inflammation terminating in suppuration.

Salivary fistula may result from imperfect healing of an abscess which has burst upon the surface of the cheek.

Vicious union, *i.e.*, union with deformity, may occur, when the fragments have not been kept in proper apposition, especially in multiple fractures, or where there has been loss of bone from necrosis.

Non-union may be due to want of apposition through lack of treatment, or through the interposition of a loose or necrosed fragment, or a dislocated tooth.

False-joint.—In this condition the un-united fragments become rounded off at the ends, and are held together by a sort of fibrous capsule, lined by a smooth membrane which secretes a kind of synovial fluid. In Esmarch's operation for closure of the jaws, the surgeon aims at producing this condition.

The treatment of fractured lower jaw is, as a rule, attended with favourable results, firm union usually taking place in about six weeks. The apparatus used for maintaining the injured parts in position, may be conveniently divided into two kinds, viz., those internal and external to the mouth. The former are the inter-maxillary splints, inter-dental splints, sutures, ligatures, &c.; bandages and splints the latter. The most common, and almost universal bandage is the four-tailed, made from a roller bandage about a yard long, and three inches in width. This has a slit three or four inches long in the centre, parallel to and about an inch from the edge. The ends are then split to within a couple of inches from the slit. The bandage is applied by putting the chin into the slit, the narrow border being in front of the chin, and tied on the top of the head, the other being tied round the neck, the ends of the upper and lower bandages being then tied together.

In conjunction with this bandage or sling, a splint may be used. It is best made of gutta-percha cut to this pattern, and when folded after being softened in warm water, can be moulded with ease to fit the chin accurately. The splint must be thoroughly padded with lint sprinkled with boracic acid, and the securing bandage not too tightly adjusted, as pressure may cause a sore. It is rather a good plan to moisten that part of the bandage covering the outer surface of the gutta-percha chin splint with a little chloroform (taking the precaution to prevent the patient inhaling too much); this causes the bandage to become fixed to the splint, and avoids any slipping of the dressing.

While wearing such a splint and bandage, the patient can be fed through a tube passed between the lips into the mouth even without extracting incisor teeth as was formerly the custom, since the liquid passes round behind the molar teeth into the cavum oris from the vestibulum oris. The foregoing method of treatment has been described by a prominent dental surgeon as an admirable method of perpetuating the deformity.

There is another, and to my mind, a better form of bandage devised by Hamilton, who states that he has frequently noticed the tendency of the sling, as ordinarily constructed, to carry the anterior fragment backwards, especially when there is a double fracture. He has devised a special form of apparatus for which he claims the following :—

The advantage of this dressing over any other which I have seen consists in its capability to lift the anterior fragment vertically; and, at the same time, it is in no danger of falling forwards and downwards upon the forehead. If, as in the case of most other dressings, the occipital stay had its attachment opposite to the chin, its effect would be to draw the central fragment backwards. By using a firm piece of leather as a maxillary band and attaching the occipital stay above the ears, this difficulty is completely obviated.

Ligature of the teeth with silk or wire is a method which has frequently been employed for the treatment of fractured jaws, but it is unsatisfactory, from the loosening of the teeth and irritation of the gums which are apt to be produced. Mr. Hugh Thomas, of Liverpool, has advocated the use of wire suture. The method consists of either drilling the fragments and passing a copper wire, each end of which is then coiled upon a "key" formed by a steel rod with a slit in it; or, in cases where the teeth are sound, in passing loops of wire around the teeth on each side of the fracture, and then twisting it up with the key.

Mr. Wheelhouse, of Leeds, has recommended the following plan, which has proved successful in a case of triple fracture, but which presents no great advantage over ordinary wire:—Two silver pins were made with flat, circular, and perforated heads, each pin about an inch and a-quarter in length. Two holes were bored with an archimedean drill through the substance of the jaw bone—one between the roots of the outer incisor and canine teeth of the unbroken side, and the second between the roots of the same teeth of the fractured side. Through these holes the pins were passed from behind *forwards*, and the perforated heads threaded with a stout silk ligature resting upon the floor of the mouth under cover of the frænum of the tongue. Having been well thrust forward through the drill holes, the points were bent in opposite directions (*i.e* away from the middle line), the loose fragment was placed in good position, the ligature was brought forward over the teeth, and a figure-of-8 suture was then made round the reversed ends of the pins.

The Hammond splint.—This consists of a wire frame, which is accurately fitted and fixed to the teeth. The splint is fitted in the first instance on a model of the jaw. To obtain the model, the fracture is fixed temporarily by a silk ligature passed round two teeth on each side of the fracture, and an impression of both upper and lower jaws taken in wax or composition. When the models have been cast, the lower one must be sawn through at the line of fracture, and the pieces fixed together, so that the upper and lower teeth articulate correctly. In this way a model is obtained of the same size and shape as the jaw before it was broken. To this model a frame of soft iron wire is accurately moulded, the ends being soldered together. The splint thus constructed is next slipped over the patient's teeth (which should be free from tartar) and fixed in position by means of a number of pieces of iron binding wire, about five inches long and pointed at the ends, to facilitate their passage between the teeth. The first wire is passed over the outer bar of the splint, between the first and second molar teeth of the left side and below the inner bar; it is then bent round, being made to return over the inner bar, between the first molar and second bicuspid and under the outer bar; the two ends are then loosely twisted together. The same process is repeated on the right side of the mouth. The wiring is repeated on alternate teeth until the splint has a firm hold. When all the wires have been passed, the ends are twisted up, cut short, and tucked away under the outer bar of the splint. After a few days they may require tightening up a little more.

The advantages of this splint are as follows: (1) The fracture is brought into accurate apposition so that the "bite" is restored; (2) it is firmly fixed; (3) mastication and speech are very little interfered with; (4) mouth can be kept clean; (5) apparatus is out of sight. Unfortunately its applicability is limited to those cases in which there are a sufficient number of firm, sound teeth on each side of the fracture to enable it to obtain a firm hold.

The Hayward or Kingsley splint.—This consists of a metal or vulcanite cap which fits over the teeth. In the sides of the cap are fixed two wires an eighth of an inch thick; the wires are curved so that, when the apparatus is applied, they emerge from the angles of the mouth and lie over the cheek. The splint is fixed by means of a bandage passing under the jaw between the two wires. Its chief disadvantage is, that the projecting arms prevent the patient from sleeping on the side. I use a piece of elastic webbing in conjunction with a moulded gutta-percha chin cap, to prevent too much downward strain on the arms of the splint by the bandage, and finally sew the arms to the elastic webbing previously applied over occiput; this does not interfere with the patient masticating his food and speaking, but is a considerable inducement for him to keep his jaws in apposition.

The Gunning and its modification, the Hearn splint, consists of an inter-maxillary vulcanite splint, which has depressions to receive the teeth of both the upper and the lower jaw. Either is made as follows:—Having corrected the model of the deformed jaw, by sawing and articulating with opposite jaw, a wax dummy is built up, capping the teeth all round, and overlapping the alveolar border. This is done in both jaws, and the two connected by pillars of wax, leaving spaces between the pillars. The dummy is then trimmed up and reproduced in vulcanite. The splint having been made, holes are drilled leading from the buccal surface to the teeth.

These are to allow for syringing out the parts. The splint is then put into the mouth and a bandage applied.

The disadvantages of this splint are:—Suspension of mastication; dribbling of saliva; fatigue from propping the jaws open; difficulty in keeping the mouth clean.

Ackland's splint.—This consists of a plated metal horse-shoe-shaped piece which rests upon the lower teeth, and a similar one which is applied below the chin. These are fastened together by two movable clamps.

To apply the splint, the mouth plate is lined with gutta-percha which is warmed and driven down on the teeth and gums. The chin plate, lined with wash leather, is put in position and held there. The swivel clamps are then fitted into both plates, and by the thumb-screws can be made to clamp the plates together until the requisite tension is attained. The advantages claimed for this apparatus are:—(1) It can be quickly and readily applied; (2) it can be used over and over again for different patients; (3) the mouth and splint are easily kept clean; (4) it does not interfere with the functions of the jaw; (5) it can be used in edentulous cases.

On the choice of a method.—The practitioner must determine in each case what will be the most suitable method of treatment. The following list will cover the majority of cases met with:—

(1) *Fracture of the body.*—(*a*) In an adult, with firm sound teeth in each fragment—Hammond splint; (*b*) in a child—Hayward's splint. (*c*) When there are not enough teeth to fix a Hammond, a Gunning or Ackland's should be used.

(2) *Fracture of the angle*, ascending ramus, condyle, or coronoid process—Hamilton's sling or the four-tail bandage.

Whatever method is used it will generally be necessary to keep the retentive apparatus on for about five weeks. Occasionally, however, the cases do not unite as rapidly as they should, but linger on in a very inert way, and may want a little freshening up before they will heal. This is especially the case with old people. These cases of delayed union may come all right in the end, or they may result in one of those complications of fracture, ligamentous union or non-union. For, though cases usually unite rapidly, there may arise conditions which considerably handicap the process of healing, or arrest it altogether. Foremost among these causes is necrosis of the bone around the seat of fracture. The blood supply being deficient or too inferior for the nutrition of the bone, this latter dies and breaks down into pus, which pus may escape at the seat of injury, or may make its exit beneath the chin, forming suppurating sinuses which are troublesome to heal.

The method of union of simple fracture.—The fracture of a bone is followed by extravasation of blood, as in the case of injury to any other vascular structure, but here, as elsewhere, this effused blood takes no part in the healing of the injured tissue, and is itself completely absorbed in the same manner as an ecchymosis.

The way in which a fractured bone is united differs in no essential particulars from the healing of a flap wound by first intention, and like the latter, is the result of a process of plastic inflammation set up by the injury. Soon after the fracture, the ends of the broken bone become hyperæmic, exudation ensues, new blood-vessels form, and the neighbouring bone is softened. The cancellous tissue, the space between the broken ends, the torn periosteum, and the surrounding soft tissues are thus filled with an interstitial granulation tissue of precisely the same nature as that which joins the flaps in the case of wounds of soft structures, but which in the case of bone is called "callus."

Union of compound fractures.—A compound fracture may unite in precisely the same way as a simple fracture. In other cases the process of union is complicated by suppuration, and is almost always the result of contamination with micro-organisms. If the wound becomes septic—and this is invariably the case with fractured jaws, as I have only met with fairly clean and healthy mouths in 4 per cent. of the cases which have come under my treatment—then the inflammatory process will progress, an excess of effusion will result, pus will be formed, and the granulating ends of the bone will be exposed. Union will in time take place, namely, by the growing together of the two granulating surfaces, and subsequently by the formation of bone in the young fibrous tissue.

Tooth Extraction Hæmorrhage.

By J. H. EDWARD, L.D.S.I.

Tooth extraction, though fortunately by no means generally or even frequently, is occasionally followed by prolonged serious and sometimes even by fatal bleeding. Almost without exception, in the latter case, the result is due to hæmorrhagic diathesis on the part of the patient himself, and not the actual traumatic injury done to him by the act of extraction, inasmuch as in such instances it is possible that what in ordinary cases would constitute a very minor injury indeed, might in certain cases cause death itself. Bleeding to death has been known to be caused by so apparently trifling an injury as a common leech bite. It becomes therefore necessary that the well-trained surgeon-dentist should be capable of dealing with all possible forms of hæmorrhage following tooth extraction or other surgico-dental processes, whether their sequences arise from traumatic, idiopathic or other causes. He will then only be best able to deal with such cases as those of "bleeders"—persons subject to hæmophilia or of hæmorrhagic diathesis—should he unfortunately encounter such in the run of his professional practice.

It is usual to consider the subject of hæmorrhage under various headings, indicating its cause, nature, and character; we need, however, confine our attention only to two of these varieties, viz., traumatic and spontaneous hæmorrhage, or excessive hæmorrhage arising from very slight and usually quite inadequate cause, as that presented in hæmophilia or the hæmorrhagic diathesis; nor need we consider these cases excepting so far as they bear on the accidents of tooth extraction.

The whole of the blood is, in the normal state of the body, contained in the circulatory system consisting of the heart and bloodvessels. If the continuity of the bloodvessels be broken the blood tends to escape by the lesion of the vessels, and it only ceases to escape when the broken vessels become stopped, either by some change in themselves taking place at their broken ends, or by their broken ends becoming plugged by changes taking place in the blood itself—by, in fact, their being closed up by blood clot or coagulum. Of course the bleeding in such cases would also stop by cessation of the heart's action under the syncope which always follows a given excessive loss of blood, but continuous syncope means death itself.

To be enabled to deal satisfactorily with the case of tooth extraction hæmorrhage, it will be necessary to deal with the subject of hæmorrhage generally. By hæmorrhage in this case is meant the escape of the blood into the cavities or out to the exterior of the body, in contra-distinction to the escape of the blood in the surrounding tissues understood under the term *extravasation*. To determine how bleeding may be stopped by the action of the bloodvessels themselves, it is necessary to know something of their structure and especially that of the arteries. To understand why vessels should cease bleeding because of changes taking place within themselves it is also necessary to know something of the composition and properties of the blood.

The bloodvessels consist of the arteries, the veins and the capillaries, which consist of cylindrical tubes, the latter only $\frac{1}{3000}$ to $\frac{1}{2000}$ of an inch in diameter. The arteries and veins contain three coats, viz., an inner epithelial coat or lining, a middle muscular coat, and elastic coat, and an outer fibrous coat of connective tissue. The larger vessels, especially the arteries, contain relatively, as compared with the smaller ones, a much larger quantity of yellow elastic tissue, and a smaller quantity of organic muscular fibre in their composition or structure. The power which the arteries possess to stop their own bleeding by their own contractile action is essentially due to their middle coat of yellow elastic fibre. When an artery is broken or torn across, its middle coat, first lengthened by the stretching or breaking force, on being broken retracts, because of its elasticity, so as to close up its broken end and thus stop further bleeding. Styptics, high temperature—as the actual or galvanic cautery—tend to promote this retractile and closing up action; our less professionally cultivated forefathers dipped the ends of amputated limbs into boiling pitch, and thus brought this retractile property of the middle coat into play, so as to efficiently prevent further hæmorrhage, in the days when medical skill and resource had not arrived at their present comparative perfection.

In the arterioles (the minuter arteries just verging in size into that of the capillaries) the elastic fibrous coat nearly disappears, but the organic muscular fibre under the influence of the vaso-motor nerves increases (relatively) greatly in proportion. When these circular fibres contract under the influence of the vaso-motor nerves they lessen the bore of the interior canal through which the blood passes, and therefore in the case of capillary and arteriole bleeding, chiefly that after tooth extraction, thus tend to lessen or arrest such bleeding. Styptics excite by direct action, and also probably by their indirect action on the vaso-motor nerves, the muscular contraction of the walls of the arterioles here referred to, and thus become more or less efficient remedies in all such bleedings.

The fibro-elastic walls of the veins are thinner than those of the corresponding arteries; the pressure of the blood in the veins is also less than that in the arteries. The walls of the veins thus readily collapse, they are therefore more amenable to external pressure, and traumatic bleeding from the veins is thus more easily controlled than in traumatic bleeding from the arteries.

In very old persons, and especially in alcoholic subjects, the walls of the minuter vessels become harder, losing much of their flexibility, contractility and capability of being influenced by the action of the vaso-motor nerves and by styptics. Bleeding in such cases as being less under control, must therefore be regarded as much more serious than in ordinary cases.

In the cases of disrupted arteries the number of jagged points presented by the torn edge promotes the coagulation of escaping blood.

The blood contained in the bloodvessels consists of about equal parts of a colourless, or nearly colourless, clear, transparent liquid, the *liquor sanguinis* or blood plasma, in which float about an equal weight of blood corpuscles—the so-called red and white corpuscles, in which the former greatly predominate. The liquor sanguinis probably does not contain *fibrin*, though generally said to do so, but it contains certain substances in a liquid state—the fibrinogenous elements—which when the blood is withdrawn from the vessel, and under some circumstances even in the bloodvessel itself, tend to form solid threads of fibrin, which, embracing and contracting on the corpuscles, form them into a compact gelatinous solid mass, termed clot or coagulum. When this clot or coagulum forms in and about the ends of the bloodvessels further bleeding is mechanically stopped. This is the way in which nature stops bleeding, especially in the smaller bloodvessels, and it is this action which the skilled practitioner endeavours to hasten and promote in all the bleeding casualties incidental to his profession. The great difficulty in relation to tooth extraction hæmorrhage which the dentist has to encounter, arises when his patient happens to be what is colloquially termed a " bleeder," that is, suffers under hæmatophilia, or is of the hæmorrhagic diathesis. Subjects of the hæmorrhagic diathesis, though frequently of good colour and healthy appearance, seem to be more or less wanting in the fibrinogenous elements of the blood ; their blood is consequently largely destitute of coagulating power ; they therefore not only bleed readily, bleeding copiously from the least mechanical cause, as a very slight scratch, but also when bleeding is once set up in them, present the greatest possible difficulty in the arresting of the same.

The blood of persons poisoned by carbon monoxide and some other gases, also of persons suffering from sea-scurvy, purpura, typhus, typhoid and yellow fever, plague, and from phosphorus poisoning, peptones, snake poison, the secretion from the mouth of the medicinal leech, &c., loses its power of coagulation.

In the case of many women, not of hæmorrhagic diathesis, there is, during or just before the period of the catamenia, a tendency to the vicarious discharge of blood at various parts of the body, as by epistaxis, hæmoptysis, &c. In such cases the injured surface of the alveolus from which the tooth has been extracted may tend to act vicariously, and give rise to prolonged and uncontrollable bleeding. In such cases the flow of the catamenia should be promoted by the use of the hot hip bath, and by the administration of aloetic purgatives. It would of course be wiser in these instances to postpone the tooth extraction until the period of catamenia was entirely passed.

In the case of hæmorrhagic subjects suffering under prolonged and uncontrollable bleeding from tooth extraction it is also desirable to promote circulation in the lower extremities to the greatest extent possible by the application of hot bricks, hot foot baths, hot iron plates or mustard cataplasms to the feet. The patient, if in bed, should be bolstered upright.

In cases of ordinary tooth extraction the bleeding does not usually last longer than from five minutes to half an hour. In the case of those suffering from hæmophilia it may be prolonged indefinitely. But even in such cases it may cease temporarily after periods of from half an hour to three or four hours, only to begin again after an interval of several hours, say twelve or more, in a much more prolonged and severe form, it may be, when the patient is in bed at home in the country, where it is impossible for him to get within reasonable time proper skilled professional assistance. As hæmatophilia is more generally congenital or hereditary, and chiefly from the mother's side, it is best in all suspected cases to make full inquiry, and after corroborative evidence, such as that afforded in the history of the patient or his parents, to place the patient for a week or two at least under treatment corrective of that habit. In such cases the patient may be treated internally for two or three weeks previous to the extraction with preparations of muriate of iron, ergot, sulphuric acid, or other suitable medicine. It is believed that by such treatment the walls of the bloodvessels are rendered more contractile and the blood itself more coagulable; Lich recommends extractum ergotæ fluidum, dose f ʒss —ij. Many cases are known in which hæmorrhagic patients have suffered little or no unusual inconvenience after submitting themselves to this treatment prior to becoming subject to the dental operator.

After tooth extraction, the blood does not issue in a full jerky stream, but oozes out more or less continuously and quickly from the broken capillaries and arterioles. In any injury to the jaws, causing much bleeding, Salter and others recommend finger pressure, even though it has to be kept up some hours, on the artery on that side of the neck on which the bleeding occurs.

The three modes of arrestment of all serious bleeding consist of ligature, pressure, and the application of styptics. The first is practically out of case in all tooth extraction bleedings. We treat here only of cases due to fairly skilful tooth extraction, and not of those in which various arteries in the tongue and face may have been injured by a bungling and unskilful operator.

The pressure may be exerted by the finger, by dental tourniquets (which are no great successes), and by plugs of various kinds: as wood, cork, cotton lint, bees'-wax, vulcanite, the matico leaf, and the extracted tooth—the plugs being either simple, or armed with various styptic substances.

The astringents or styptics may consist of heat (the actual and the galvanic cautery, and *hot* water, at 120° F., act as astringents); ice, or ice cold water, ether spray, may also act as astringents; tending to lessen the bore of the arterioles by their action on the organic muscular fibre constituent of their walls. The chief mineral and organic astringents used are tannin, agaric, matico (in leaf or powder), alum, acetate of lead, styptic colloid (consisting of solution of gun-cotton and tannin in ether), sulphate of copper, nitrate of silver, and perchloride of iron. The last three mentioned, though very valuable in many cases of excessive bleeding, should not be used in the case of "bleeders," since they tend, as escharotics, to extend the area of bleeding among this class of patients. Quite recently the local application of ethyl chloride has been strongly recommended for the arrestment of alveolar hæmorrhage.

The rapid flow of blood which sometimes follows the extraction of a tooth, and which generally ceases in a very short time, need cause no apprehension; it is the continual welling out of the blood from the cavity only which should give uneasiness.

In such case the following plans have been recommended:—Well wash out the mouth and the alveolus with warm water, and quickly introduce into the bleeding alveolus a cigar-shaped plug of matico leaf, prepared as follows: take a matico leaf, soften in hot water, cut up into strips the depth of the alveolus, and fold up into small wedge with cigar-shaped end, the rough side of the leaf being kept outside. Fit loosely into the socket. Then lay a few folds of cotton lint upon the gum, so as to press the matico leaf into position by closing the mouth, which, if possible, is to be kept closed till the bleeding has ceased. When the mouth is examined next day, the alveolus will, in all probability, be found to be filled up with blood, clotted about the interior and exterior of the leaf. The matico leaf plugs, formed as described, may be introduced and pressed down into the socket by means of the plugging forceps. In the case of the upper bicuspids, two rolls should be passed up so as to fill the two roots, or a plug of cotton lint, well covered with powdered matico leaf, should be forced into the alveolus. After a layer of cotton lint—of sufficient thickness to well press the wedges into the socket when the mouth is closed—has been placed between the teeth or gums, it is better to keep up the pressure of the closed mouth on the wedge by bandaging up the lower jaw to the top of the head, than to rely upon the patient's keeping his mouth closed by voluntary effort. Another plan, which is sometimes found to act with great efficiency, consists in stopping the cavity of the alveolus with a pledget of cotton lint, made by rolling it round any convenient small wire or axis, and then dipping it into a solution of styptic colloid immediately before wedging it into the socket or sockets, according to the number of bleeding alveoli to be treated. When more convenient, the pressure on the wedges may be exerted through a piece of cork placed underneath it, and kept in its place by the pressure of the opposite jaw. In all cases it is best to keep up the pressure by tightly closing the mouth by means of a four-tailed bandage. Wedges or plugs of wood, bees'-wax, softened shellac, gutta-percha, &c., covered over with powdered tannin, may sometimes be used with advantage. Sometimes pressure on the walls of the bleeding cavity can be best kept up by the re-insertion of the extracted tooth. Sometimes it has been found advisable to insert a plug immediately, without waiting for the bleeding to go on at all. Where there has been no fear of hæmatophilia, a compress or wedge of cork, dipped in perchloride of iron, inserted in the alveolus, after breaking down its outer wall, has been found very effective in stopping too copious bleeding.

Long before hæmorrhage, originated by simple dental operation, begins to threaten the life of the patient, the dental practitioner will have called the general practitioner in to his assistance, and thus have cast from himself the main responsibility of the case; it is yet, notwithstanding, advisable that he should not be unfamiliar with even this stage of the case.

Though in cases of excessive loss of blood syncope threatens the life of the patient, yet it really affords him physical salvation, for it gives that rest to the blood and to the vessels which both diminishes further loss and also promotes that coagulation by which alone fatal consequences are to be stayed. In case of syncope it is necessary to tide over the period safely, or the last spark of life will have fled. The great object is to ensure that sufficient blood passes to the cardiac and respiratory centres of the medulla oblongata to cause them to send out sufficient nerve force to the heart and respiratory organs to enable them to keep on working, however feebly. With this object the patient should be laid on his back, his head kept low, his body covered up with hot flannels, and hot water bottles or hot bricks applied to his feet. Stimulants in small quantities may also be introduced into the system by the mouth, the rectum, or by subcutaneous injection, as the case may require. Alcohol, however, is regarded as objectionable. In the meantime, all possible should have been done to stop the source of bleeding. As a final and desperate resource—should all else fail—transfusion of a solution of common salt (salt ʒj., water Oj.) at a temperature of 99° F. may be attempted. It is the opinion of many authorities, that the transfusion of this solution is not only much safer, but is equally efficacious with that of human blood.

The Growth of Analgesia, Antisepsis, Conservation and Prophylaxis in General and Dental Surgery.*

By R. J. PYE-SMITH, F.R.C.S.

SENIOR SURGEON TO THE SHEFFIELD ROYAL HOSPITAL.

Mr. President and Gentlemen,—I thank you for the honour you have done me in inviting me to address you at the commencement of another session. I accepted the invitation with diffidence, but I assure you it is a real pleasure to meet you on such an occasion.

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* A paper read before the Sheffield Association of Licentiates in Dental Surgery.

Dentistry is a branch of general surgery, and to those engaged in the practice of that branch the changes and advances in general surgery cannot fail to be of interest and significance.

I propose this evening to speak of some of those changes which have taken place within my memory, or, at all events, during my lifetime.

Among them the increasing means of mitigating or preventing pain stands out prominently. The introduction of nitrous oxide, of ether and of chloroform, as agents of general anæsthesia, had but recently occurred when I was born, and even when I was a medical student they were used with much less frequency than at the present time, whilst local anæsthesia, by means of ether spray, was but seldom employed. The greatly improved modern substitutes for ether spray, in the form of chloride of ethyl, chloride of methyl, and various modifications and combinations of such liquids, which are now in such general use, were then unknown, and any such local anæsthetic agent as cocaine was, perhaps, hardly dreamt of. The changes, however, which have taken place within my own observation in respect to the mitigation of pain have not been wholly due to the introduction of fresh anæsthetic agents, nor to the better knowledge which we now possess of the preparation and administration of the older ones. They are rather, I think, to be attributed to the greater readiness of the surgeon to save his patient from serious pain whenever possible. And this readiness on the part of the surgeon is doubtless in great part the reflex of the increasing unwillingness on the part of the patient to undergo any physical suffering from which he can be saved.

There are dangers in either extreme. A difficult tooth extraction, or the removal at once of a considerable number of stumps, will in many cases not only justify but even demand the employment of a safe general anæsthetic, and I think it is a desideratum, which the use of cocaine, as at present practised, does not seem to meet, to find some safe and convenient means of mitigating the prolonged torture (as I think it may often be, not unfairly, designated) occasioned by some of the necessary processes in the proper treatment of carious teeth. On the other hand, however, the danger is still more grave of failing to do what is essential in the preparation of a cavity for filling, from fear of causing pain to the patient. Whilst sympathising deeply with tender children and delicate women, I consider it a grievous thing that the present generation should be so much afraid of bearing pain where some important object is to be gained by its endurance, either for themselves or for others. I fear there is nothing of the Spartan in the modern Englishman.

Still greater changes than have taken place in regard to the question of pain have been effected by the introduction and almost universal adoption of the theory and practice of antisepsis. Certainly to this, far more than to anything else within any personal experience, are due the immense strides that have been made during the last thirty years, both in the treatment of what were at that time regarded as surgical diseases and conditions, and in the application of surgical methods of treatment to much that was then considered to be within the exclusive domain of the physician. The rise and progress of the science of bacteriology has been attended with constant accessions to the list of those diseased conditions which could not exist without certain specific, living micro-organisms, and the great extension of operative surgery has been made possible by the adoption of means for preventing the access to the tissues of these producers of poison and inflammation. Among such diseases, those of the mouth and teeth have an important place, and the etiology of dental caries is certainly not complete without consideration of the microphytes which are constantly to be found associated with it. I am not aware, however, that as yet any specific bacterium or micrococcus of caries has been established on the recognised basis of being (1) distinguishable from all others, by size, form, staining properties, mode of growth and cultivation, &c.; (2) demonstrable in every case of the disease; (3) undemonstrable where the disease is not present; and (4) capable, when isolated by a pure cultivation, of reproducing the disease when suitably inoculated. If in the case of caries these conditions can be fulfilled by any form of microzyme, its *contagium vivum* would be demonstrated, for I think we may take it that caries is already quite definable and recognisable as a clinical disease. Much valuable work has recently been done in this direction, but the difficulties to be overcome are very great.

In general surgery there is a tendency to rely less and less on extraneous antiseptic agents, and to trust more and more to absolute cleanliness or asepsis. I am decidedly of opinion, however, that the risks of accidental contamination are greater where no chemical antiseptics are employed than where they are rigorously used. A serious objection to the practice of aseptic surgery, as distinguished from antiseptic surgery, is found also in the difficulty and cost involved in its proper fulfilment, as compared with the greater ease and inexpensiveness of antiseptic practice. Thus, whilst the condition of the atmosphere appears to be but very rarely so foul as to be a source of danger and to need disinfecting, it is much more difficult to render the site of operation and the hands of the operator innocuous without the use of chemical antiseptic agents than with their aid. And the costliness of such tables, cupboards, and all sorts of appliances as are essential to aseptic, but not quite essential to antiseptic, surgery, is very great. In the aseptic system cleanliness is pushed to the mechanical exclusion of all germs. In the antiseptic system cleanliness is supplemented by the chemical destruction or restraint of such germs as may, in spite of our care, have gained access to the parts concerned. To the dental surgeon simple asepsis can scarcely be practicable, since the cavity of the mouth is habitually infested by many kinds of microphytes, and the teeth which require operation are, for the most part, already invaded by certain of them. How far it is necessary, in dealing with a tissue so hard and non-vascular as dentine, to disinfect the burs and other instruments used in the preparation of cavities for filling, I cannot say; nor, if necessary, what are the best means to adopt—friction, heat, or the action of chemical germicides. But one point is clear, namely, that every care should be taken, by efficient cleansing of hands and instruments immediately after use, to prevent the possibility of conveying from one mouth to another such poisons as those of syphilis and of certain forms of suppuration. Gags and props, forceps and elevators, mirrors and probes, syphons and rubber dams, the face pieces of inhalers and supplemental bags—are specially, I suppose, to be remembered in this connection.

The third great change that I have witnessed in surgery is the growth of the practice of conservation. This in general surgery has shown itself, perhaps mainly, in the substitution of such operations as erasions and excisions of joints, for the amputations of limbs which were so frequently practised when I was a student. Probably no better illustrations of this important principle of progress could be found than in the field of dentistry. The perfection with which gold fillings are now made, the success with which necrosis of the pulp is treated, and the beautiful crown work which seems to raise dead stumps to life and work again, are instances with which I am personally familiar, and only examples of what you are doubtless all daily witnessing and effecting.

The fourth, and last, change to which I shall refer, is the earnest endeavour to spread the practice of prevention in surgery as well as in medicine. Prophylaxis is the highest aim of the healing art, and in surgery it receives exemplification in the endeavour to remove, by early operation or otherwise, the sources from which the dangers of local inflammation, of blood poisoning, or of cancer, are so liable to spring. The mouth is one of the most fertile fields in which the prophylaxis of cancer may be attempted, and the dentist must often see the early stages of epithelioma or of carcinoma of lip, cheek, gum or tongue, whose early recognition and efficient removal is of such vital importance to the patient.

It is, however, especially in relation to caries that prophylaxis concerns and is, to a great extent, in the hands of the dentist. I say "to a great extent," but I am well aware that it is not in his hands to the extent that his knowledge and disinterested desire make it highly important that it should be. I fear that the general medical practitioner has hitherto largely failed in his duty towards the rising generations of his patients by ignoring, almost entirely, the urgent need that exists to inculcate habits of rational personal attention, as well as of skilled professional attention, to the teeth, from the period of their earliest eruption.

Writing of dental caries 120 years ago, John Hunter said, "We have not as yet found any means of preventing this disease or of curing it. All that can be done is to fill the hole with lead, which prevents the pain and retards the decay."* This happily is not still true. The hole can now be filled with something better than lead, and in a way that may not simply "retard the decay," but cure it, provided the case is treated sufficiently early.

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* "Natural History of the Human Teeth," by John Hunter, F.R.S., 2nd edition. 1778.

And have we not an efficient means of prevention in the systematic use of the toothbrush? I do not deny that the teeth of some persons are intrinsically more liable to caries than those of others. Defects of structure and of nutrition of the teeth themselves cannot but act as predisposing causes, to say nothing of the influence of unhealthy conditions of the mucous membrane and glands of the mouth. But the exciting, if not the efficient, cause of caries is almost certainly the growth of certain microbes, whose invasion of the dentine can be effected only by the aid of the decalcifying influence of acids generated chiefly by the decomposition of particles of food, this decomposition being itself the result of the growth of microbes in farinaceous and other kinds of food *débris* in the mouth. Nature's mode of prevention (as seen in the lower animals and in uncivilised races of men) appears to consist of efficient friction during the mastication of foods that are not too soft, together with an abundant flow of alkaline saliva, often followed by a draught of water and the searching attentions of the tip of the tongue. But now-a-days—as in ancient times, too, among many highly civilised races—food is so luxuriously prepared that it is swallowed with but little mastication, and consequently the teeth get but little friction and the flow of saliva is not freely stimulated, whilst particles of most easily decomposable foods are lazily left to breed disease in the mouth. Children, too, are pampered with sweets and other luxuries between their meals, and do not then generally get water to wash the remnants away. Now, provided that well-formed teeth are present in a healthy mouth, it would seem easy to prevent the conditions which are necessary for the development of caries, by efficient cleansing of the mouth and teeth *immediately after every meal*. That this is habitually somewhat irksome is no doubt true, as also that it is frequently inconvenient and occasionally impossible; but I am convinced that it ought to be aimed at, and the nearer the ideal regularity is approached the less troublesome will it become and the less will it have to be supplemented by the much more unpleasant process of filling.

A tooth brush seems to be the most effective and convenient implement to assist in this process of cleansing. Tooth powders are probably generally unnecessary, but the detergent property of ordinary good soap is too valuable to be wisely dispensed with. Antiseptics are perhaps not more needed than powders, but I think it is a point of some importance to use an appropriate antiseptic solution for the brush after use, and probably also for rinsing the mouth. In circumstances where the use of a tooth brush is impossible, other mechanical means may be advantageously employed, such as the careful use of a tooth-pick, of a handkerchief, of water, and of the tongue. Were this careful and sufficiently frequent use of the tooth brush duly inculcated and enforced in families and schools it would, surely, do much to check the terrible ravages of dental caries from infancy to adult life. But it is obvious that it must be followed up by pretty frequent periodical inspections of the mouth by a competent dentist, and that again, and immediately, by efficient treatment, whether of early caries, of irregularity, or of any other unhealthy condition of the teeth. Procrastination is the thief, not only of time, but of comfort, of health, and of hope. As applied to the case of the teeth, it turns dirt into caries, caries into necrosis, necrosis into abscess, and abscess into premature loss. It entails pain, indigestion, disfigurement, and an amount of inconvenience, which alone far outweighs any burden which the use of the brush *ter die post cibos* for life could entail.

These four principles, analgesia, antisepsis, conservation, and prophylaxis, stand out, as I have said, in my memory and observation of surgery, and I am convinced that they have received also a large share of attention at the hands of those who have been working so well in the branch of dentistry. What subjects will receive most attention in the near future will depend, to some extent, on you whom I have the honour to address.

The Sheffield Association of Licentiates in Dental Surgery, though a small body, is one that has life and *esprit de corps*. It will grow in size by the process of time, and I trust it will grow in influence for good at a still more rapid rate. It is my belief that most of the mistakes made by well educated medical men are due to a lack of sufficiently thorough examination of the case in hand. I have little doubt it is the same with you. Even in a limited speciality it is, I feel sure, of the greatest value and importance to obtain a correct history of each case, to make a full examination, and to record on paper your diagnosis and prognosis. The time is not, I trust, far distant when such detailed methods of note-taking will be made at once imperative and easy by the realisation of the hopes which you have long entertained of having, in Sheffield, a Dental Hospital or Department and a School of Dental Surgery.

A Case of Carcinoma of the Floor of the Mouth and its Subsequent Mechanical Treatment.

By TRAER HARRIS, M.R.C.S., L.S.A., L.D.S.Eng.
DENTAL SURGEON TO THE GREAT NORTHERN CENTRAL HOSPITAL.

As a preliminary to the remarks on the special dental treatment of this case, it is necessary to give a detailed account of its surgical history; this I have obtained from the notes of my colleague, Mr. Mower White, who, when sending me the patient, kindly placed them at my disposal.

The patient, a man, 45 years of age, came to the Great Northern Central Hospital in August last, complaining of pain on movement of the tongue, and on account also of that organ not being freely moveable. A hard swelling was present on the floor of the mouth, firmly adherent to the posterior aspect of the alveolar border of the mandible, and extending from the symphysis backwards on the left side for about two inches. It had an ulcerated surface, with raised, indurated and precipitous edges. The inferior surface of the tongue anteriorly was also involved, and the induration spread backwards along the whole length of the sublingual gland. The submaxillary gland could also be felt to be indurated, and near the angle of the jaw were two small glands, enlarged and harder than natural.

The tumour presented every appearance of a squamous-celled carcinoma, and an operation for the removal of the primary growth was performed at the hospital, on August 16, by Mr. Mower White.

The lower lip was divided in the middle line, and the incision carried down to the chin. The flaps were reflected from the jaw, and, with a small Hey's saw, bone was removed, including five teeth, besides further bony tissue, where a tooth had already been lost. The excision was made from the right lateral incisor tooth to the site of the left first bicuspid, the horizontal saw cut finding its level at the junction of the middle and the lower thirds of the depth of the jaw. The upper pair of genial spines were included in the excised portion, and the genioglossi muscles were divided horizontally backwards to the tongue, and the upper part removed with the growth. The adjacent diseased portion of the tongue, and the left sub-lingual gland, were next excised. The lingual artery and its dorsal lingual branch were both divided, and required ligature.

The wound was treated with zinc chloride lotion, and a pledget of carbolised wool, with a silk thread attached, loosely packed into it. The lip was sutured with silkworm gut and horsehair, the latter being used for the mucous membrane.

On August 30 the second part of the operation was undertaken, when the submaxillary region was opened up by the usual incision, and the left submaxillary gland was dissected out, and after cutting through the mylo-hyoid muscle, the deeper portion of the gland, together with its duct, was also removed. The oral cavity was not opened from below, and was now only separated from the submaxillary wound by a very thin cicatricial partition.

The wound was treated with carbolic lotion, was sutured throughout with horsehair, and a sal alembroth dressing applied. The patient was discharged on September 10, with the wound soundly healed.

With a view to mechanical restoration, I took an impression of the parts early in November last, being anxious not to wait too long after a healthy embryonic tissue formation had been established, as I felt that the longer one waited the greater would be the difficulty in encountering cicatricial adhesions. From this first impression I had constructed a special tray, which would dip well down in the sulcus, and by this means I was able to obtain a very fair reproduction of the parts. Great resistance to impression taking was offered by the tongue, which had now lost considerably in retractile fibres, and had had binding cicatricial tissue substituted in their place.

I have now fitted a denture of vulcanite, which is simply attached to the only three remaining teeth he has in the lower jaw, all situated on the right side; but these are, happily, very sound, and firmly implanted, so that the denture is, by the aid they afford, well attached and kept in position, and he suffers no discomfort through any undue pressure upon the new tissues.

In cases of this kind the desirability of undertaking mechanical treatment, at as early a time as the healing of the mouth wound will allow, ought to be borne in mind, on account of the adhesions which so readily develop, and which, after a longer interval has elapsed, offer such impediment to artificial work. With the denture in position at a comparatively early stage, the ever-contracting cicatricial tissues have to adapt themselves to the mechanical resistance, and the tendency to displacement of the denture is thus minimised.

Necrosis of the Maxilla, following Enteric Fever.*

BY WALTER GLAISBY, L.D.S.I.

THE case I have the pleasure of bringing before you this evening is one of Necrosis of the Maxilla, following Enteric Fever.

Annie Perricand, age 12 years, was admitted into the York County Hospital on October 10, 1894, with a history of typhoid fever, and complaining of severe headache over the top and front of head. The temperature on admission was 100°, but in a few days it came down to normal, was then subnormal, and returned again to normal after about seven days. The patient seemed about to make a good recovery, having a normal temperature for three weeks; but unfortunately, on November 7, symptoms of a relapse appeared, and the temperature rose to 101·5, and there was some diarrhœa.

Her condition was from this time typical of typhoid, and nothing unusual was noticeable until November 19, when the patient complained of pain on the right side of the face, and there was a slight fulness below right eye, with a red flush of the right cheek. The pain and swelling both increased, and eventually a small abscess formed in the outer side of the gum, on the upper and right maxilla. This was opened on December 2, and a quantity of very foul discharge washed away. The temperature, which now was of a somewhat hectic character, began to fall, and though high at night, was from this date always normal, or thereabouts, till the day patient left the hospital.

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* A paper read at the Midland Counties Branch, February, 1896.

In all probability this abscess was due to one of the rather common sequelæ of typhoid fever, namely, periostitis; a condition usually, however, only found in the long bones of the body, and most often on the tibia.

The unfavourable conditions of the mouth during a long course of fever would, without doubt, be a predisposing cause for an inflammatory process in this region, but whether the primary cause may have been an ulcerated gum, or even a diseased condition of one of the teeth, it is impossible to say. The result of this abscess was to set up an extensive sloughing of the gum and cheek of the right side, and eventually led to necrosis of the bone beneath. The teeth began to fall out and it then became evident that the right half of the hard palate, together with the alveolar portion of the right maxilla, were in a state of necrosis. By the end of January the greater portion of the maxilla became loose, and shortly after separated and came away in pieces. These pieces comprised the palatine and alveolar portions of the right maxilla, and the only remaining tooth on that side of the upper jaw was the first molar, which was then loose and attached merely by the outer portion of gum. This tooth I removed and ordered the patient to wash her mouth out daily with boracic acid lotion. I saw her once a week for two months, and then took an impression of her mouth and made her the obturator and plate she is now wearing. I have seen her at intervals of a few months and all has gone on satisfactorily. Last November she called to see me and I found another tooth erupting, which I think proves that all the parts are in a perfectly healthy condition, owing, no doubt, to the improvement in her general state of health. I am pleased to show the patient, as I have all along considered it a case of great interest to us as dental surgeons, and shall be glad if anyone present would like to examine her mouth.

Legal Intelligence.

British Dental Association *v.* H. N. Shellard.

PROSECUTION AT THE CARDIFF FIRST POLICE COURT.
Before Mr. T. W. LEWIS, Stipendiary Magistrate.

Wednesday, March 25, 1896.

PROSECUTORS represented by Mr. R. W. Turner, Barrister-at-law, instructed by Messrs. Bowman & Crawley-Boevey, 21, Bedford Row, W.C.

Defendant represented by Mr. T. H. Belcher, Solicitor, Cardiff.

Form of summons issued against defendant: "H. N. Shellard—for that you on the 21st February, 1896, in the borough of Cardiff, not being then registered under the Dentists Act, 1878, and not being then a legally qualified medical practitioner, did unlawfully take and use a description, namely 'dentist' and 'Cardiff and South Wales Denture Company,' such description implying that you were registered under the said Act, and were specially qualified to practise dentistry."

Mr. BELCHER: May it please you, sir, I appear on behalf of the defendant, and I think now is the right time to take a preliminary objection to the summons. My objection is that the summons discloses two offences. The point has been before another magistrate. The proceedings are laid under section 3 of the Dentists Act of 1878. Now, sir, I don't know if you have the section before you, but if you will follow me for one moment you will see my point. If you look at that section—section 3—you read "From and after the 1st August, 1879, a person shall not be entitled to take the name or title of 'dentist' either alone or in combination with any other word or words; or of dental practitioner or any name, title, addition or description implying he is registered under this Act, or that he is a person specially qualified to practise dentistry, unless he is registered under this Act." Now, my contention is this; that each clause constitutes a separate offence—the using the title of dentist, either "alone or in combination with a word or words" is one offence; or "of dental practitioner" is another offence; or "any name, title, addition or description implying he is registered under this Act" is a third offence. Your worship sees the words are not alternative, but the summons in my case is as follows: "Not being then registered under the Dentists Act, 1878, and not being then a legally qualified medical practitioner did unlawfully take and use a description, namely, 'dentist' and 'Cardiff and South Wales Denture Company,' such description implying that you were registered under the said Act and were specially qualified to practise dentistry." My point is this. The offence of using the description "dentist" should have been in one summons: while the offence as to using the term "Cardiff and South

Wales Denture Company" should have formed the subject matter of another summons. There was a case at Plymouth where the same point was taken.

Mr. TURNER : Not at Plymouth. I may say, to save time, there was one somewhat similar action.

Mr. BELCHER : The point was taken at Lancaster. You are not bound by it. Mr. Turner, I believe, then appeared on behalf of the Association. An objection was taken, and the court through its clerk said, "Mr. Tilley (the advocate for the defence) is quite right. Mr. Tilley says that this information alleges three or four separate charges. I agree that it does, and I think the contention of Mr. Tilley is right. If the Act of Parliament sets out four distinct offences then the defendant has a right to ask for an adjournment, and the prosecution can select which of the charges they will proceed upon. I am not responsible for drawing up the information. The use of the word 'dentist' is sufficient for one charge, and the description showing that he was specially qualified would also be another offence." That being so, I ask my friend to elect on which summons he is going, or else I shall object to the summons as bad.

Mr. TURNER : Perhaps, sir, I may at once state that when my client's solicitor's clerk applied for the summons he did, as a matter of fact, apply for two. But he was told that by the practice of this court it was not necessary. The man had notice of the offences he would have to meet, and must therefore know the offences. I am entitled on the form of the summons to suppose that he took a description implying he was registered under this Act, and that he is a person practising dentistry. He uses two descriptions—one is that he is a person qualified as a dentist, and another, "the Cardiff and South Wales Denture Company," implying he is entitled to practise dentistry. I am entitled to avoid this technical objection. I further have to give the particulars of the description. I say that he was using a term to imply he was specially qualified to practise dentistry. I submit my friend has only a technical objection, and if he has, the summons was taken under the direction of the authorities of this court.

The STIPENDIARY : I do not think the summons on the ground of duplicity is bad, and ought to be dismissed ; but I do think the words "Cardiff and Denture Company" are mere surface and ought to be struck out, entitling the defendant to an adjournment.

Mr. TURNER : I should have submitted with respect to you that that was a further description.

The STIPENDIARY (to Mr. Belcher) : Do you wish to have an adjournment?

Mr. BELCHER : Oh no, sir. I do not know, sir, whether I have made myself quite clear to your worship. But my point is this ; that of a man says "I am a dentist," it is very much more serious under the statute than if he used a term implying he is a dentist. I think, sir, practically, the proper course should be this—to say we use the word or title "dentist" without being registered; then the alternative offence would be using this expression, "The Cardiff and South Wales Denture Company," implying we are dentists.

The STIPENDIARY: I do not think there is anything objectionable in the form of the summons.

Mr. TURNER: You have the section of the Dentists Act before you, and it cannot have escaped your notice that it materially differs from the section of the Medical Act in that case before you the other day, in that these words "wilfully and fraudulently" are omitted. That Act, as you see, is provided so as to prevent offences under the Medical Act of 1858, and to make an offence of practising as a dentist when not on the Register. There is a similar Act for veterinary surgeons in 1881, and I venture to call your remembrance to that Act, in order to show the differences between the old and new law, and to prove that the object of the new legislature is to prevent those difficulties from being raised.

The STIPENDIARY: I take it that the Act means that if a man is a dentist and thoroughly well qualified as such, if, in fact, he is a highly proficient dentist, but if he describes himself as a dentist and is not on the Register, then he commits an offence under the section.

Mr. TURNER: Yes, of course. You may have a man very highly qualified in law, but not being a member of the bar he is not qualified to practise. Here we have a "manager to Mr. Goodman," but he essays to practise dentistry on his own account. He knows perfectly well the Act is against him. It may be said, as is very often said in these cases, "It is very hard," but it is no harder than the case of a solicitor's managing clerk, who may be a very well qualified man, but cannot practise as one. The evidence in this case that I shall call is that of William Oxley, a man who, I believe, was for some time in the detective force in this town, and in this case I hope it will not be thought that it is merely "got up" as police evidence. You are perfectly well acquainted, sir, with the mode of procedure in prosecutions under the Food and Drugs Act. The inspector enters the shop as a customer, buys the food and then declares himself. In this case the procedure has necessarily been somewhat similar. I shall also be able to prove that defendant previously handed the witness some cards.

The STIPENDIARY: I don't think you need go on that course at all.

Mr. TURNER: He hands cards, which shows he is regularly carrying on the business there in the High Street, and you will naturally say he is a dentist.

The STIPENDIARY: The issues are apparently simple. The first is: Does he describe himself by any term implying he is a dentist. If he does it is clear he commits the offence.

Mr. TURNER: The Registers are under the section of the Act, and the onus is thrown on my friend to prove that the defendant is registered. That is the Register before you, and you will find the name is not there. It is the authentic list published by Messrs. Spottiswoode. Call William Oxley.

Mr. BELCHER : Would your worship order all other witnesses out of court, especially Mrs. Oxley and her friend.

(Witnesses ordered out of court.)

WILLIAM OXLEY called, sworn and examined by Mr. TURNER.

Q.—Is your name William Oxley? A.—Yes, sir. Q.—Do you live at 83, Alexandra Road, Cardiff? A.—Yes, sir. Q.—You are an ex-detective sergeant of the Cardiff police force, which I believe you served some nineteen years? A.—Yes. Q.—Did you on February 21 last go to No. 4, High Street, with your wife, to inquire for Mr. Shellard? A.—Yes. Q.—You went in the morning, saw a young man, and in consequence of what that young man said to you, did you return at 6.30? A.—Yes, at 6.30. Q.—What is there on Mr. Shellard's door? A.—"Cardiff and South Wales Denture Company."

Mr. BELCHER (to his worship) : In reference to that, you struck it out.

The STIPENDIARY : But there is no reason why he should not give evidence upon it.

WITNESS (continuing) : "Cardiff and South Wales Denture Company ; Mr. Shellard, principal, for six years with Mr. Goodman."

Mr. TURNER : Did it say what Mr. Goodman was on the doorplate? A.—I did not notice that. Q.—Was there a case of teeth outside? A.—Yes. Q.—Was there a lamp? A.—Yes. Q.—What was on that lamp? A.—"Cardiff and South Wales Denture Company ; Mr. Shellard, principal." Q.—Anything about the work? A.—I have got a note in my book.

The STIPENDIARY : Did you make the note at the time? A.—I made it to-day.

Mr. TURNER : Was the lamp up on that date? A.—I noticed on that day—"The Cardiff and South Wales Denture Company ; Mr. Shellard, principal." That was all on February 21. Q.—When you went in the evening about 6.30, whom did you see? A.—A boy. I asked for Mr. Shellard, in fact my wife asked, and then I asked on the stairs again. Q.—Did you see Mr. Shellard? A.—He showed us to a room, and we waited a short time. Then a gentleman came in, and my wife asked, "Are you Mr. Shellard, the dentist?" and he answered her "Yes."

The STIPENDIARY : Was the gentleman who came in the defendant? A.—Yes, your worship.

Mr. TURNER (continuing) : Were you present when your wife had the conversation with him? A.—Yes, we were both together. Q.—In the operating room? A.—Yes, in the front room. Q.—What conversation did your wife have with him? A.—I have told you. Q.—Anything else? A.—Nothing. Q.—Did you go anywhere else?

A.—Into the back room. Q.—What was there? A.—A chair, a bird-cage, a case of teeth on the mantelpiece— Q.—Did you see anything else? A.—A case of instruments. Q.—What sort of instruments? A.—Instruments for drawing teeth. Q.—What conversation did your wife have with him? A.—My wife asked him if he could supply her with four teeth. Q.—Did he do anything to her? A.—He told her to sit in the chair, and examined her mouth. Q.—What did he then say? A.—He told her she would have to have two taken out. Q.—What else? A.—He told her she would have to have a set. Q.—Did he say anything about the price of a set? A.—He said ten guineas, fourteen guineas, five guineas, and four guineas. Q.—Was any money paid? A.—Yes, he took an impression of her mouth.

The STIPENDIARY: What do you mean? A.—Oh, he put something into her mouth to get the shape of her gums.

Mr. TURNER: What was then said? A.—He told her she had better have an upper set, and have two teeth out. She said no. She would not have two out. Q.—And what then? A.—She said she would have the lowest price set—four guineas. She told him she would call again another time, and he was not to go on with the work till she had called. Q.—Was any money paid? A.—She paid 5s. on account, for which she got a receipt. Q.—Was that the receipt he gave her? (handing paper to witness). A.—Yes, that is the receipt. Q.—Did you have any further conversation with him? A.—No, I did not say very much myself.

Cross-examined by Mr. BELCHER.

Q.—You knew when you went that this man was not a dentist? A.—No, I was not told. I was not told he was not a dentist. Q.—What caused you to go there? A.—I was instructed by the "Dentists' Association." Q.—Why was Mr. Shellard selected for that honour? A.—I can't tell you. Q.—Now, Oxley; you mean to say you were instructed to go with your wife for the purpose of having an impression of her mouth taken without any reason? A.—Not exactly to take my wife. I suggested my wife. Q.—Was your wife anxious to have false teeth? Now be careful. A.—No. Q.—You know impressions are for the purpose of making false teeth? A.—Yes. Q.—Then your wife did not want an impression? No, not particularly. Q.—Then your wife not wanting false teeth or an impression, why did you go there? A.—I was instructed. Q.—For what purpose? A.—To get a set of false teeth at a price —— Q.—Your wife did not want false teeth?

The STIPENDIARY (to witness): Why are you not candid? You went there, I take it, to see if offences were committed. A.—I did not know. Q.—But was that your object? A.—Yes, sir, I was not told then, I was told by another gentleman what reason it was.

Mr. BELCHER: Let me see. I shall have to make some strong remarks about this. Q.—Did you not go there for the purpose of procuring evidence? A.—My instruction was to get a receipt—to have an impression. Q.—To get something in writing? A.—Yes. Q.—For what purpose? A.—As I said before, to catch him. Q.—Thank you, I take your term—to catch him—to go there to get something in writing to catch him? A.—Yes. Q.—You discussed it—you laid your plot—you instructed your wife. Did you tell your wife to ask if he was the dentist? A.—Yes. Q.—And the first thing she said was "Are you the dentist?" And he said he was? A.—Yes.

The STIPENDIARY: "Are you Mr. Shellard, the dentist?" wasn't it? A.—Yes. Q.—Now, sir, did you ask him to put "Mr. Shellard, dentist" on this sheet? A.—No, sir. Q.—First of all, I will take the evidence you have given me.—"My wife asked if he could supply her with four teeth." She did not want them? A.—No. Q.—Never meant to have them? A.—No. Q.—What name did your wife give? A.—I believe she gave her maiden name, Hackman. Q.—Did Mr. Shellard ask her her name? A.—I believe he said "What name?" Q.—Did she give the name "Mrs. Hackman"? A.—Yes. Q.—That was a lie? A.—A professional lie. Q.—I am very much obliged to you for that expression. You, an ex-member of the Cardiff police force, say it is a professional lie! A.—Yes, a professional lie. Q.—That is a term you have learned since you left the force, Oxley, isn't it? A.—No, I have had a good many names in my time. Q.—"Mrs. Hackman"—did she give her address? A.—I believe she did. I am not sure of that. Q.—She said "she would call again." Did she mean to call again? A.—She would have called again if she had not been otherwise instructed. Q.—And you were not to go again? A.—Not to go again. Q.—Then when you said she would call again, that was another untruth? A.—She would have called again if she had not been otherwise instructed. Q.—Now, the prices! First of all, the prices were given you?

The STIPENDIARY (to Mr. Belcher): I must point out to you, Mr. Belcher, it is quite immaterial whether he practised the art or not.

Mr. BELCHER: I am going on, sir, if you please, as usual, knowing the traditions of this court. Your worship will see by-and-bye, when I come to take up a course which I have hopes you will approve of, I hope, in the interests of this Association itself that your worship will not stop me for a moment or two.

The STIPENDIARY: Go on.

Mr. BELCHER: Now, Oxley, these prices put down here—you were told the various prices, fourteen guineas, ten guineas, five guineas—did you ask him to write them down? A.—No. Q.—What? A.—No. Q.—You were told to get something in writing? A.—Yes. Q.—Did you not ask Mr. Shellard here to put down these figures in writing? A.—The price? He did not put a price on. Q.—Was it at your request he made this written memorandum at all? A.—Not me. Q.—Whose five shillings did you pay? A.—My own. Q.—When did you get it back? A.—The day after, I believe. Q.—Who gave it to you? A.—My employers. Q.—They re-imbursed you with the five shillings? A.—Yes. Q.—Tell me, it is a professional matter to you? A.—Yes. I am bound to do it. Q.—You have a police pension? A.—Very little. Q.—What have you had for this job? A.—Nothing yet. Q.—What do you expect for this job? A.—A guinea a day. Q.—I should think so! I certainly agree with you there, Oxley. Was it your wife's suggestion that she should advance five shillings to bind the bargain? A.—I told her to do it. Q.—You told her to do it to bind the bargain and also for the purposes of evidence? A.—Yes. Q.—Very well! Did your wife call you her husband? A.—No. Q.—What did she call you? A.—Nothing. Q.—Didn't she refer to you as her young friend? A.—I would not say that. Q.—Then what did she refer to you as? A.—I believe she said I was a sailor friend of hers. Q.—That was another lie? A.—Yes. Q.—She referred to you as her sailor friend? A.—I believe so.

Mr. BELCHER (to the Stipendiary): I am bound to be somewhat loud over these matters. (To the witness.) And that was another lie. Now tell me, this guinea a day, does that pay for the valuable services of your wife? A.—No.

Re-examined by Mr. TURNER.

Mr. TURNER: When you were in the force you have often used different names from those of your own? A.—Scores of times. I have been all over the country and used many names. (Witness stands down.)

ALICE EMILY OXLEY called, sworn and examined by Mr. TURNER.

The STIPENDIARY (to Mr. Belcher): Do you cross-examine her?

Mr. BELCHER: Yes, sir, I do. I am not going to spare these people one iota in this matter.

The STIPENDIARY: Very good, go on.

Mr. TURNER (to witness): You are the wife of William Oxley? A.—Yes, sir. Q.—Did you go to the defendant's premises on February 21? A.—Yes, sir. Q.—Did you go in the evening? A.—Yes.

The STIPENDIARY: It is necessary to give evidence to show he used the title of "dentist."

Mr. TURNER: If you please, sir. (To witness.) Did you see the defendant? A.—Not when I went the first time Q.—Nor when you went the second time? A.—Yes. Q.—What did you say? A.—I asked him was he Mr. Shellard, the dentist. Q.—What did he say? A.—He said yes.

Cross-examined by Mr. BELCHER.

Q.—Who told you to ask was he Mr. Shellard, the dentist? A.—My husband. Q.—Your husband had tutored you up to this? A.—Oh, no, sir, not at all. I merely went there to have a set of teeth. Q.—

You told us your husband told you to ask if he was the dentist. That is true, isn't it? A.—Yes, sir. Q.—And had your husband had a conversation with you before going in? A.—No, sir. Q.—He told you to ask if he was the dentist? A.—Yes. Q.—Then you must have had a conversation with him? A.—My husband told me to ask for the dentist. Q.—Why were you to make use of that expression? A.—Well, if I went to a doctor—— Q.—I want to know why your husband told you. A.—I don't know. Q.—For what purpose did you go there? A.—To get measured for a set of teeth. Q.—Did you want a set of teeth? A.—Yes, sir, I did. Q.—Did you want a set of false teeth? A.—Yes, sir, I did want a set of false teeth. Q.—Did you go there for the purpose of getting a set of false teeth? A.—Yes, sir. Q.—And will you swear you meant to get a set of false teeth? A.—Of course, I swear it. Q.—In this court an oath is not a matter of course. Just listen to me, my good woman; do you mean that you went into that place to get a set of false teeth? A.—Yes, sir, I went there with that purpose. Q.—And paid for them? A.—Yes, sir; and paid for them. Q.—Had you seen anybody in reference to your going there? A.—No, sir. Q.—What name did you give? A.—I gave my maiden name. Q.—Why? A.—My husband told me when I go out I mustn't give my own name. Q.—I want to know why. You were asked your name by Mr. Shellard. What name did you give? A.—Mrs. Hackman. Q.—That was untrue? A.—Of course. Q.—It is true you wanted a set of false teeth; why did you select Mr. Shellard for a set of teeth? A.—I don't know. Q.—Why not other dentists? A.—My husband sent me there. Q.—Why? Did he think he was a more skilful dentist? A.—I don't know. Q.—Was it not for the purpose of getting evidence in this case? A.—I suppose that is what it was. Q.—You went there with lies in your mouth to get evidence for this case? A.—If you are paid to do a thing you've got to do it. Q.—That is your estimate of truth—to get a living? A.—I haven't told any lies. Q.—Was not "Mrs. Hackman" a lie? A.—That is so. Q.—Did you tell Mr. Shellard that he was your husband? A.—I didn't tell him anything. Q.—Would you be surprised to hear that your husband said you said he was a sailor friend? A.—I didn't say so. My husband said so himself. Q.—Well, you stood by. And that was another lie? A.—Yes. Q.—One moment; you paid him five shillings? A.—My husband gave it to him. Q.—How much did you get for this visit? A.—Nothing. Q.—How much for this visit—you expect something? A.—Of course I do. (Witness stands down.)

Mr. TURNER (to the Stipendiary): That is my case, sir.

Mr. BELCHER (addressing the Stipendiary): This case, sir, depends entirely on the evidence of these people. Nothing has been put in showing this man—in the words of the summons—used this description, except what appears from the evidence of Mr. and Mrs. Oxley, and I at once, sir, upon every ground, and upon every principle—I at once ask you to entirely disbelieve these people. Then the very description upon the door, and upon the windows, if there be such, though it is not for me to admit it! It is a highly criminal case depending entirely upon verbal evidence given (on the admission of Oxley himself) by a professional liar. He admitted it, and said it was part of his profession. Upon every true principle of morality, and every tradition of the law, I do ask you, sir, in the first instance, to say you do not believe these people, and there being no evidence except what is given by these people, that the case fails.

I ask your worship, first of all, to say if you think they should be believed, and their evidence as to a description is to be accepted in this court; then, sir, it is only for me to argue that the circumstances do not come within the meaning of this section of the Act, "to use the name or title dentist."

Except the expression—the colloquial expression forced into this man's mouth almost by this woman "are you the dentist"—except that, a mere colloquial expression (if indeed you believe Oxley), there is no evidence of any use of the word or words "dentist."

Now, sir, the portion which you have indicated to me, "using any name, title, description, or addition, implying that he is registered under this Act," which for the purposes of this case must be taken in conjunction with the word "dentist." Now, sir, you have heard the word "dentist" used in the way I have put it. Now, sir, there are certain descriptions spoken to by this witness—"The Cardiff and South Wales Denture Company"—in one or two places. Then, sir, remember "Mr. Shellard, six years manager to Mr. Goodman." In justification of these words I think I am correct in saying that any man may draw teeth or engage in the manufacture of teeth, so long as he does not imply he is registered under the Act or that he is specially qualified. Now this description does not imply in itself that this man is a registered dentist, or that he is specially qualified; and I do venture to say this—that if that man had meant to have misled the public into the belief that he was a registered dentist, he would have done it in a very much cleverer manner than in this case. The whole house is covered by signs, and this is a sign like a shop sign running over the whole house, as your worship well knows—"Denture Company." All that Mr. Shellard meant to indicate to the public was that he was a manufacturer of teeth—the mechanical manufacturer of a set of teeth. If the man had held himself out as a dentist he would have put some hieroglyphics or letters after his name which would have led the public to believe he was a dentist registered and qualified under this Act. My submission, therefore comes to this. There was no use of the word "dentist," the only words used being words which only had a significance so far as the manufacture or the practical portion of dentistry is concerned, which I think I am right in saying is another trade, and which Mr. Shellard held himself out to follow. This is shortly my submission with reference to the summons. He did not imply he was a dentist. The use of the word "dentist"—to finish where I began, according to Oxley, assuming you believe him—was purely colloquial.

Now, sir, you see the position I am in. There were two persons at an interview—two common informers and Mr. Shellard. I cannot put Mr. Shellard into the box, but Mr. Shellard desires me to say—

The STIPENDIARY : I attach no weight whatever to their evidence. I have heard Oxley's admission with regard to the conversation that took place ; but with regard to the description—"The Cardiff and South Wales Denture Company, Mr. Shellard, principal, six years with Mr. Goodman"—I accept that, and if there is no evidence to contradict it, I shall hold that to be a description, implying he was a duly qualified person.

Mr. BELCHER : Now I see what your worship means. The difficulty—

The STIPENDIARY : It is there upon proof that the name does not appear on the Register.

Mr. BELCHER : No doubt. It is for you to say what significance you draw from the trade expression. I argue that that expression does not imply he is registered under the Act.

The STIPENDIARY : My view is that it implies that this person is qualified to practise dentistry, but not under the Act.

Mr. BELCHER : I say "the dentistry" means surgical dentistry, and not mechanical.

The STIPENDIARY : Is that materials ?

Mr. BELCHER : I think so. All he meant to have implied by that sign was that he was a manufacturer of teeth : but if your worship is against me on that point, namely, that "The South Wales Denture Company" did imply he was a qualified man, I will at once throw myself on your hands ; but I will ask this, in assessing the penalty first of all to consider—I am sure my friend will understand that on him I do not attach the slightest blame at all—that having regard to the local persons who have instructed him, they have worked up this case and have presented a spectacle in that witness box which during my fifteen years' experience in this court I have never seen exceeded. It was a most lamentable and distressing spectacle. I ask you, sir, to say that although this case has been technically proved you will mark your disapproval of the scandalous way in which truth has been trifled with. One other word : this is the first case in Cardiff, and your worship will attach some weight to that ; to some extent my clients were ignorant, and if they unwittingly offended they were the victims of Mr. Oxley.

The STIPENDIARY : Forty shillings and costs, or in default of distress fourteen days' imprisonment.

The British Dental Association *v.* T. Osbourne White.

PROSECUTION AT THE CARDIFF FIRST POLICE COURT.

Before Mr. T. W. LEWIS, Stipendiary Magistrate.

Wednesday, March 25, 1896.

PROSECUTORS represented by Mr. R. W. Turner, barrister-at-law, instructed by Messrs. Bowman and Crawley-Boevey, 21, Bedford Row, W.C.

Defendant represented by Mr. Alfred Jackson, solicitor, Cardiff.

Form of summons issued against defendant :—

"T. Osbourne White—for that you on February 22, 1896, in the borough of Cardiff, not being then registered under the Dentists Act, 1878, and not being then a legally qualified medical practitioner, did unlawfully take and use a description, namely, 'Dentist,' and 'Dental Institute,' such description implying that you were registered under the said Act, and were specially qualified to practise dentistry."

(Case heard immediately subsequent to that against H. N. Shellard, 4, High Street, Cardiff.)

Mr. TURNER : My friend had some preliminary objection to make. I am in the same way as before. It is a "Dental Institute." I go on the course that those words mean that defendant is qualified to practise dentistry. Outside the house there is a large plate with "Dental Institute" upon it. A receipt was given to the witness. The words "Dental Institute" were on the gate, and on the receipt, "The Cambrian Dental Institute, 5, Charles Street, Cardiff, February 22, 1896. Miss Hardcastle, debtor to Mr. T. Osbourne White, D.D.S." (which is now not a medical qualification under the Dentists Act, but which was at one time a registered qualification). I believe my friend admits this.

Mr. JACKSON : Oh yes, sir.

MARY ANN HARDCASTLE called, sworn, and examined by Mr. TURNER.

Q.—What is your name? A.—Mary Ann Hardcastle. Q.—Did you go to 5, Charles Street, Cardiff? A.—Yes, sir. Q.—Did you there see a gentleman calling himself Dr. White? A.—Yes, sir. Q.—Is he in court to-day? A.—Yes, sir. Q.—Is that the gentleman you saw? (Indicating defendant.) A.—Yes, sir. Q.—Do you know what was outside the house? A.—I could not tell you, only that there was a brass plate outside the door. Q.—Do you know what was on it? A.—"Dr. White." Q.—Did you see Dr. White, and did he give you that receipt? (Handing paper.) A.—Yes, sir, he gave me that receipt. Q.—My friend, Mr. Jackson, admits that. (To witness.) Miss Hardcastle, what are you? A.—A domestic servant. Q.—Is your name Hardcastle? A.—Yes. Q.—And are you a relation of Mrs. Oxley? A.—Not at all. Q.—Are you in her employ? A.—Yes, sir. Q.—Of course when you went to Dr. White you didn't want any teeth? A.—No, sir. Q.—But you went because you were told to go? A.—Yes, sir. Q.—On the door was "Dr. White"? A.—Yes, sir. (Witness stands down.)

The STIPENDIARY: It is admitted that the name does not appear on the Register?

Mr. JACKSON: There seem to be two points I have to put to you, sir. The first is the "Cambrian Dental Institute." As far as those words are concerned, they are not "a description, a title, or an addition," which imply that Mr. White is specially qualified to practise dentistry, and that being so, sir, it seems to me they are nothing more than an address. The present witness says she does not know what is outside the house, but as a matter of fact the name is on the door, and on the rails, some 20 feet away, "Dental Institute" is placed, showing the words are intended to imply an address, and not a title or addition to the name of Mr. White. I ask you, sir, to look at it in that light. They do not appear directly after his name on the door, and I do not consider——

The STIPENDIARY: If he uses the name or title of dentist, or of dental practitioner, or any name implying he is so and so, it comes within the meaning of the Act.

Mr. JACKSON: In Stone's "Manual," 47 Vic.. chapter 6, there is a section with a note, the words "title, description, or addition to include any title or addition to a name, or designation or description, whether expressed in words or by letters, or partly in one and partly in the other." That is in the Medical Act of 1886. Well, sir, that is my point. I won't labour it. I suggest, sir, that the words of the Act are intended to imply an addition to a man's name, added to this a description after his name, or a designation. I submit you will hold that in this case it is an address, and not an addition to Mr. White's name.

The STIPENDIARY: This address indicates to the public what character the institution is—namely, that it is a dental institute.

Mr. JACKSON; An addition, I submit, is a name applied to a man who is qualified to practise dentistry. But we won't labour that point, sir; I will simply ask to be allowed to use the remarks Mr. Belcher has used in the preceding case. Miss Horncastle has told you, in the box, that she did not go to the defendant's for the purpose of obtaining teeth. The cases are just the same in that respect.

The STIPENDIARY: This case is better in one respect. There is no evidence of lying. Miss Horncastle admitted that she did not go there for the purposes of getting teeth.

Mr. TURNER: No more than an inspector under the Food and Drugs Act who goes into a shop to get butter.

The STIPENDIARY: No, the inspector does not go with lies in his mouth.

Mr. TURNER: No, sir, I do not say that. These people do practise lies, but it is extremely difficult to get evidence in these cases.

The STIPENDIARY: Same penalty—forty shillings and costs, or in default of distress fourteen days' imprisonment. Costs will not be allowed to Oxley and his wife.

Reports of Societies and other Meetings.

Odontological Society of Great Britain.

THE report of the meeting of this Society held on Monday, April 13, will be published in our next issue.

The Dental Hospital of London.

THE Thirty-eighth Annual Meeting of this Institution was held at the hospital on March 12, Mr. F. A. Bevan, one of the Trustees, in the chair. In the report, which was unanimously adopted, the Committee of Management congratulated the Governors on the sustained prosperity and usefulness of the charity. During the year 1895, 59,819 cases had been treated among the suffering poor, being 1,320 in excess of the number in the previous year, and 40,564 more than those seen in 1874, when the hospital was removed from Soho Square to its present site. Owing to this large number of cases, the present hospital buildings are found utterly inadequate, the rooms being very small and insanitary, and lighted from one side only, and the Committee are, therefore, making strenuous efforts to raise sufficient money to build, on an adjacent site, a new hospital which shall be fitted up with every accommodation and appliance on the latest principles. Help by an increase in annual subscriptions is very earnestly solicited.

Devon and Exeter Dental Hospital.

THE Annual Meeting of this Institution was held in the Exeter Guildhall on March 29, there being a good attendance, although the Mayor and Sheriff of Exeter and several other gentlemen were unable to attend. The sixteenth annual report of the Committee of Management showed that during the past year no less than 5,214 cases received attention, bringing the total number of cases received during the life of the Institution up to 81,123. The financial statement showed that the adverse balance of 1894 had been slightly reduced, a sum of £3 18s. 3d. now being due to the Treasurer. The Committee regretted to record the death of an old subscriber, Mr. Winslow Jones, who left a legacy of £100 to the Institution. The Committee recommended the re-election of the President, Mr. Richard Ley, the retiring members of the Committee of Management, Messrs. R. T. Campion and W. S. Donaldson, with the addition of the Rev. E. E. Chatterton Orpen: the Hon. Treasurer, Mr. J. M. Ackland. The report was adopted and the officials thanked for their services.

Edinburgh Dental Students' Society.

THE Twelfth Annual Dinner of the Edinburgh Dental Students' Society was held on the evening of March 5, in the Windsor Hotel. Mr. Ivison Macadam, F.R.S.E., the Hon. President for the coming session, occupied the chair, whilst Mr. R. Lindsay, L.D.S., the President, and Mr. J. Malcolm, L.D.S., the ex-President, assisted as croupiers.

Covers were laid for over seventy gentlemen, numbering among them many of the representatives of kindred societies, past students and friends.

After the dinner, the customary toasts were honoured and interspersed with an excellent vocal and instrumental programme, contributed to principally by the student members.

The menu card, as usual, was a work of art and humour, and was one of the features of the evening.

Abstracts.

Hare-lip.*

ONE of the earliest operations which you will have to perform in private practice will very likely be that for the cure of hare-lip. The accounts of this operation in most of our books are not easy to understand, and when you see the operation done in the theatre, you are so far off that many of the smaller details escape your observation. It seems a simple procedure to pare the edges and bring them together with sutures. But unless you attend to many small details in the operation and after treatment, you will find that your operation will fail, or that the union you obtain is faulty. I propose, therefore, today, after saying a few words upon the causation of hare-lip, to describe to you the method of operation and subsequent treatment which I have found most successful.

Causation of hare-lip.—As you all know, the upper part of the face is developed from three processes. The central, or *fronto nasal*, process, forms the nose, the middle part of the upper lip, and the middle of the upper alveolar process. The other two, the *maxillary* processes, form the cheeks and the side portions of the alveolar border. These processes should unite before the end of the third month of fœtal life. If this union fails completely, we have the worst cases of double hare-lip and cleft palate. If it fails only partially, the want of union may be (*a*) superficial, and produce single or double hare-lip ; or (*b*) deep, and give rise to some form of cleft palate. A very few instances of hare-lip in the middle line have been observed, either from a separation of the lower end of the fronto-nasal process into two parts, or from its absence. Usually the hare-lip is on one side of the middle line close to the line of junction of the pre-maxilla and maxillary processes. If I ask men where this is, the answer generally is, "the interval between the lateral incisor and the canine tooth." This is not quite correct, because sometimes in cases of hare-lip it is found that the lateral incisor is attached to the pre-maxillary bone ; at other times to the maxillary portion ; and in some cases there are two small lateral incisors, one being attached to the pre-maxillary, and the other to the maxillary portion. The best answer, therefore, to this question is that the line of junction is between the median incisor and the canine tooth.

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* A clinical lecture delivered by Mr. Davies-Colley at Guy's Hospital.

Next we may consider, why should there be an arrest of development? In many cases, no cause can be ascertained. In a few, maternal impression from mere fright is assigned as a cause. To be efficient the shock must have taken place during the first three months of pregnancy. In a few cases hereditary tendency plays an important part. For instance, in a case upon which I operated a short time ago, the uncle and great uncle of the patient had suffered from hare-lip. In other cases you will find that some illness has impaired the nutrition of the mother during the earlier part of gestation.

I shall now describe in detail to you the operation which I have found the best to remedy this deformity.

First, as to the best time for performing the operation. This depends to some extent on the severity of the deformity. I think it is best to wait until the child is at least six weeks old, because by then the child is stronger to undergo the operation, and the mother is in a better condition to look after it. If you operate on a very young baby the prolabium is often so difficult to distinguish, and the parts are so small, that you may fail to get an accurate adjustment. In severe cases I usually wait still longer, until the child is from two to three months old.

The points which you should aim at in performing the operation are the following :—

(1) *Good union.*—In order to obtain good union, the surfaces must be clean cut ; they must be brought into good apposition, and kept in

this position at as low a tension as possible. Further, the parts must be well supplied with blood and kept quite quiet.

(2) You should avoid a notch in the lower border of the lip, such as often follows the contraction of the line of union.

(3) Carefully adjust the prolabium.

(4) Take care to form a proper floor to the nostril.

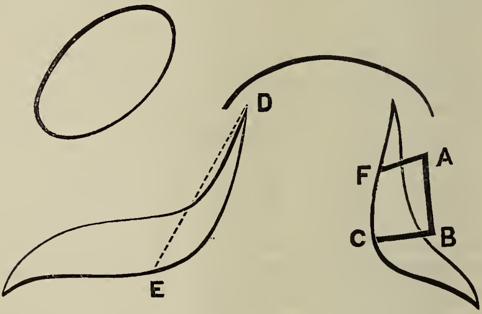
(5) Avoid a vertical groove in the lip. This is often caused by paring away so little tissue that the muscular portions of the lip are not brought into contact.

(6) Avoid an ugly scar, such as may follow any sloughing or ulceration caused by your stitches.

The patient having been anæsthetised, the steps of the operation are as follows :—

I. Divide attachment of cheek on maxillary side of cleft, and separate it freely from the bone with raspatory as far as the infra-orbital foramen.

II. Transfix lip on maxillary side, introducing knife a considerable distance from the margin of the cleft and carrying it somewhat obliquely through, so as to remove more skin than mucous membrane. The incision A B should extend from close to the ala of the nose as far as the prolabium, then directly inwards so as to form a small flap, B C, from the red part of the lip as it cuts its way out.



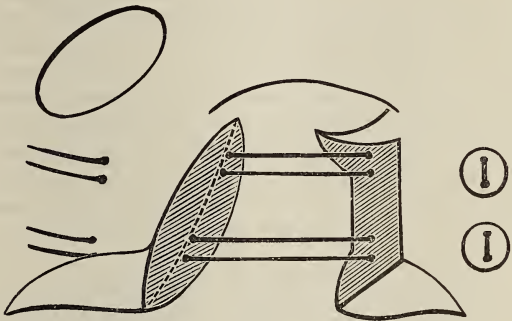
III. Make an incision, D E, through three-quarters of the thickness of the premaxillary portion near to its margin, but do not divide the mucous membrane behind. In this way a portion of the paring may be used so as to get a broad raw surface. The hæmorrhage should be stopped by gentle pressure.

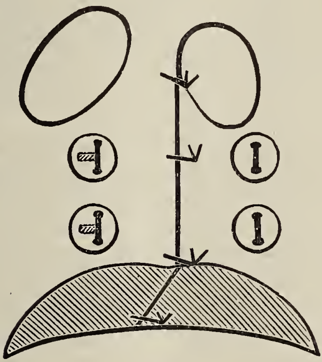
IV. With a pair of scissors trim the paring on the maxillary side, leaving a small flap, A F, to form the floor of the nostril. Also trim the paring on the premaxillary side, so that the whole of the raw surface formed by the three-quarters of the thickness of the lip and the turned back paring shall correspond in size with that upon the maxillary side.

Generally also it is necessary with the knife or scissors to extend the raw surface a short distance upwards upon the septum nasi, to provide an attachment for the small nasal flap A D.

Now the parts are ready to be brought together.

For a long time I used the hare-lip pin to approximate the deep parts. The objection which I found to the use of this pin was that if left in too long it would cut its way out, and so make a horizontal cut through lip, while if taken out sooner, sometimes union had not taken place, so that the parts gave way.





The reason why the pin cuts its way out is that the tissues between the pin and the silk used to keep the parts in apposition are pressed upon, so that their blood-supply is cut off, and sloughing consequently occurs.

What I have found the best are ordinary mother-of-pearl shirt buttons connected together with wires. I use two buttons on either side. A wire is threaded through two holes of a button, and the ends armed with needles. These are passed through the skin on the maxillary side and well into the muscle and brought out just in front of the mucous membrane, and then passed in reverse order through the muscle and skin on the other side, where, after they have traversed the small holes of a similar button, the wires are tightened up, twisted, and cut short. The upper pair of buttons is then fastened in the same way. The deeper part of the two surfaces having been thus drawn together, I employ horse-hair sutures inserted through the very edge of the skin to bring together the rest of the raw surface. The first of these should be that which secures the exact co-aptation of the prolabium.

Dressing.—I have given up the use of strapping, to which there are many objections, and now cover the parts with flexible collodion. I first lay a narrow strip of boracic lint over the wound to prevent the collodion from getting between the edges. I then put on a thin film of sal alembroth wool and paint the whole with flexible collodion. On the fourth day after the operation, I lift up the edge of the dressing and cut the wires beneath one of the lower buttons, leaving the rest of the dressing untouched. On the fifth day I do the same with one of the upper buttons. On the sixth day I remove the dressing and all the sutures. I then dress the wound with an ointment of zinc oxide and vaseline.

It is best not to apply collodion a second time, as it is liable to set up an attack of eczema. By the end of six days the union is so firm that it is quite unnecessary to support it by strapping or any other device.

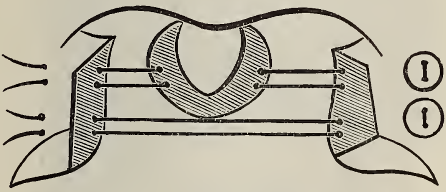
My diagrams will show how the lower flap on the maxillary side is used to avoid the notch upon the free edge of the lip, while the upper flap, when carefully adjusted with its tip against the nasal septum, forms the lower margin of the nostril.

If the edge of the premaxillary bone is prominent, there may be some difficulty in bringing together the raw surfaces on either side of the cleft. Usually, however, this can be done after the cheek has been properly freed from the maxilla. In rare cases it may be necessary to free the central part of the lip from the premaxillary bone. I have never found it necessary to force back this bone in single hare-lip. If good union is obtained, the steady pressure of the upper lip will soon press the prominence into its proper place.

In double hare-lip various degrees of severity are met with. I will discuss the treatment of a severe case, one of those in which the middle of the upper lip appears to hang from the tip of the nose, and the premaxilla projects far in advance of the maxillary processes. In such a case I prefer to wait till the child is three months old. If possible, both sides should be operated on at once. I have several times divided the operation into two parts, joining one side first and then the other; but I find that the second operation is very difficult.

The premaxilla is apt to be tilted by the first operation, and the soft parts of the middle of the lip are so stiffened by inflammatory thickening that it is impossible to approximate the side of the cleft without much tension.

Many of the difficulties are the same as those encountered in single hare-lip. In addition you have to deal with the prominent premaxilla, and you will have much more trouble to secure a well-shaped nose. On both sides the cheek must be freely detached from the maxilla. On the left side the upper and lower flaps should be cut in exactly the same way as in single hare-lip, but on the right side the lower flap should be omitted. *All* the prolabium must be pared off the central portion of the lip, by an incision passing through three-fourths only of its thickness, and extending upwards upon the side of the septum nasi. If you attempt to utilise the central prolabium in forming part of the margin of the upper lip, you will find that the tip of the nose is drawn down and much deformity produced. The flaps should then be trimmed with scissors so as to make the raw surfaces on either side of the central part of the lip correspond in size to those upon the lateral portions, and to shape the upper flaps which are intended to form the floor of the nostrils.



The next point is to deal with the prominence of the premaxillary bone. An attempt may be made to push it forcibly back into its proper place. If this fails, the best plan is to make an incision through the mucous membrane which covers the posterior edge of the vomer at its lower part, and having laid bare both sides of the bone with a raspatory, to cut away a triangular piece with a strong pair of scissors. The premaxilla may then be readily pressed back into its normal relation with the maxillary portions of the alveolar process. I would advise you on no account to remove the premaxilla, for the removal of it not only involves the loss of important teeth, but entails considerable deformity from the falling back of the upper lip.

Diagram No. 4 will show the shape of the raw surfaces and how they are now brought together upon their deeper aspect by means of two pairs of button sutures. As in single hare-lip, the superficial adjustment is carried out by interrupted sutures of horsehair, and the same dressing and after-treatment should be employed.

Careful nursing is very important, so that the infant may be well supplied with properly prepared fluid nourishment, and may be kept as quiet as possible. Sometimes also there may be an occasional difficulty in breathing, from the closing up of the passage by which the infant has hitherto drawn in the air. The nurse should therefore be instructed to draw down the lower lip by gentle pressure upon the chin, whenever the infant appears to suffer any obstruction to respiration.—*Guy's Hospital Gazette.*

Extensive Lupus of the Face Greatly Improved in Appearance by an Artificial Nose and Mask.

By E. J. SMITH, M.B., B.S.Lond.

The patient is a man age 27, who has been under the care of Dr. Sydney Short in the Infirmary, Birmingham, for some months. He has suffered from lupus of the face since twelve years of age, and, as will be seen by the illustration (fig. 1), the resulting destruction of parts is very extensive. The nose, the adjoining parts of the cheeks the hard and soft palate, the alveolar portions of the superior maxillæ, together with the chief parts of the walls of the nasal fossæ, are com-

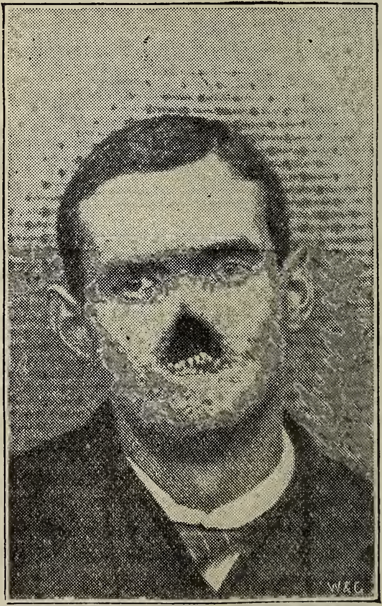


Fig. 1.

pletely destroyed. The mask, which was made by Messrs. Salt & Son, of Corporation Street, Birmingham, consists of a nose, with adjoining part of the cheeks and upper lip, with moustache, and is kept in position by a spectacle frame. The greatly improved appearance of the patient (fig. 2), together with the fact that speech is rendered much more distinct than before are points, I think, which make the case worthy of record.

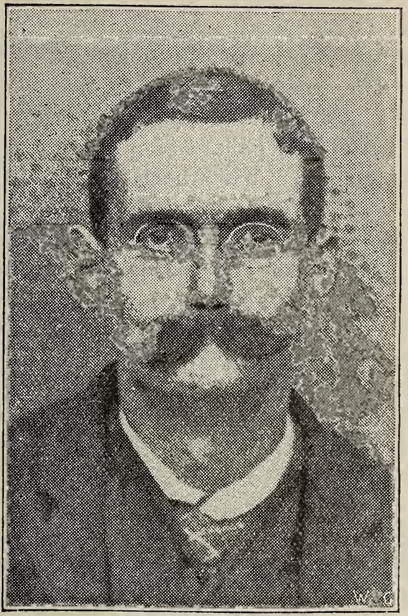


FIG. 2.

Miscellanea.

Royal College of Surgeons in Ireland.

The following gentlemen having passed the necessary examinations, have been admitted licentiates in dental surgery of the College:—William King Carew (Dublin), and John Alfred Poock (Norwich). The next examination is fixed to take place on Monday, May 11, 1896.

An Interesting Legal Action against a Dentist.

An action of some interest to dental surgeons was heard in the Westminster County Court before his honour Judge Bayley, on Tuesday, March 3. The plaintiff was Francis Lepper, of 56, Great Marlborough Street, W., described as a dental warehouseman, and the defendant was Mr. Harold J. Pickering, L.D.S.Eng., of Clacton-on-Sea. On the case being called, plaintiff stated that he claimed the sum of 8s. 6d. in respect of 100 gallons of protoxide of nitrogen supplied to the defendant. This the latter admitted, but stated that he had a "set off" of the same amount, viz., 8s. 6d. in respect of the lid of a vulcaniser with which plaintiff had supplied him. Defendant said that in April, 1894, he had purchased the vulcaniser at a cost of £2 10s., and that in November, 1895, after the machine had been used at the outside only sixty times, he discovered the dome buckled in and cracked, and defendant urged that there was a flaw in construction, and that the machine was not suitable for the purpose for which it was sold. Plaintiff then stated that the lid had had undue pressure put upon it in order to render the chamber steam tight, when the "asbestos packing," which should have been renewed every six months, was worn out. To this defendant replied that no word regarding "asbestos packing" had been said to him when the vulcaniser was purchased, that this was the first he had ever heard concerning "asbestos packing" in vulcanisers of the plaintiff's manufacture, that no one had touched it but defendant himself since he purchased it, and that he certainly was most careful over his own machinery. His honour then directed plaintiff to find in the printed catalogue published by him, the instructions regarding the renewing of the "asbestos packing," and plaintiff failed to find in the catalogue any word relative either to the use of asbestos in their vulcanisers or to the renewal of the packing. His honour therefore decided that the plaintiff had supplied something which was not capable of doing the work required of it, and which would only last for six months when plaintiff had stated it would last for years, and he therefore gave judgment for the defendant, who applied for and obtained costs.

Correspondence.

We do not hold ourselves responsible for the views expressed by our correspondents.

Advertising Dentists.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—I think I shall not be the only dentist who, within the last five years or so, has had less mechanical work to do than formerly, and has had to live from profits derived from stoppings, extractions, regulating cases, &c., with a little mechanical work now and then. The reason for this is not that there is less demand for artificial teeth, but because these cases get principally into the hands of the unregistered man who advertises artificial teeth.

I have traced dozens of cases where persons have been to me to have their old stumps and teeth extracted by gas, and then gone to the two-and-sixpenny man to have their teeth made. The other day a person came to me concerning a part set of upper and lower teeth she had got from one of these places; she had asked for their best teeth, and although their cheap (?) teeth are advertised as being the same "prize medal" teeth as other firms charge a much higher fee for, still, they accommodated her with a high priced set of very badly made teeth, which proved a failure. She came to ask me to remake them, but as a result of a bad bite in addition to a bad fit, the teeth had been so ground down on the lathe that re-making was an impossibility, and she was unable to pay for another set. Thus the public need protection from these quacks, who I may say do not stick at using iron wire and ordinary brass pins for bands.

A few weeks ago I extracted, under gas, at two different sittings, several teeth and stumps for a school board mistress, and made an appointment with her to have the new teeth made about Easter. A day or two ago I received a note—usually our renegade patients are not so courteous—which I enclose for your inspection, cancelling the appointment. I have taken the trouble to ascertain the reason of this, and it turns out that she has been persuaded to try a cheap dentist (?)—an unregistered practitioner. Thus the dentist needs protection.

Can nothing be done to remedy matters? At present we can only prosecute a man who wrongly uses the title of dentist, and all our prosecutions are, in a sense, abortive, because these men are still able to practise dentistry without using the title of dentist. Along with Mr. Blandy and others I should like to see all dental advertising done away with.

Through the effluxion of time the registered advertiser will be no more, but in order to stop dental advertising and dental quackery, a blow by fresh legislation must be struck at the unregistered and unqualified quack dental practitioner.

Faithfully yours,
A MIDDLE-CLASS PRACTITIONER.

The following is the letter referred to above :--

DEAR SIR,—Miss W. informs me that when she last called on you you suggested that she should see you again on the Wednesday before Easter, assuming (perhaps naturally so) that she would wish you to model new teeth for her. She is obliged for the kind attention you have given, but regrets to say that she does not think she will require your services further. I thought it best as a matter of courtesy to inform you of this, so as to avoid causing you any possible inconvenience.

Yours truly,
W. T.

March 20, 1896.

"Solila Gold."

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—I feel that the letter of W. C. G.—why does he not sign his name ?—in your last issue calls for a reply from me.

I take it that W. C. G.'s note of warning consists in pointing out that the same thoroughness and conscientious care should be exercised in working "Solila," or any other sponge gold, as in operating with the ordinary cohesive gold. Surely it was unnecessary in addressing the members of the British Dental Association to point out that fact. I supposed that as much would be understood, and purposely refrained from making such a very invidious suggestion to my brother practitioners.

W. C. G.'s remarks concerning "surface-hardening," and the "*poor* consistence of the body" in soft gold fillings will surprise most operators, and will not be endorsed by them, I think ; nor will his statement that "absolute cohesion and solidity of the whole of a filling is in many cases unnecessary" be acceptable. I, personally, should expect to find work done according to such ideas, returning, after a very short interval, to reproach me. Only the habitually careless man will work "Solila" carelessly, so we may leave him out of the question, but the honest worker will find that he can work "Solila" with (1) always as good, and an average better result than with cohesive gold ; (2) always in much less time ; and (3) with less fatigue to his patient and himself.

I am, faithfully yours,
EDWARD A. MANTON, L.D.S.Eng.

14, *Grande Rue*,
Boulogne-sur-Mer,
March 20, 1896.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—There was a demonstration given at the Portland Hotel on April 1 on Dr. De Trey's Solila gold, at which I had the pleasure to be present.

Solila gold is of the same description as Watt's crystalline gold and Mat gold, but seems to be more perfect in its manufacture. The rapidity with which it is worked is marvellous, so that the rubber dam can be dispensed with in a large number of cases, and the results are apparently equal to cohesive gold foil. A special set of instruments is desirable, if not absolutely necessary, and these have all rounded and finely serrated points. The best results being obtained with hand pressure is certainly an advantage from the patient's point of view, the mallet being a much dreaded instrument; however, those operators who are wedded to the mallet can use the hand mallet, the head of the plugger being covered with a piece of leather to prevent too sharp an impact. The cavity is prepared as for an amalgam, without retaining pits or grooves, and at the demonstration no particular care was taken to smooth up either the edges or the body of the cavity, the gold accommodating itself to all irregularities. Solila gold may be cut into any desired size and shape by means of thin-bladed scissors, and rolled up into pellets between the finger and thumb, these having been cleansed in absolute alcohol. To obtain the maximum of ductility the gold should be *slightly* annealed either directly in the flame of a spirit (pure, not methylated) lamp, or over a sheet of mica.

There is one point insisted upon by the inventor which is of equal importance in filling with foil, but too often overlooked or disregarded, and that is the necessity of absolute cleanliness of all instruments which touch the gold; to insure which Dr. de Trey recommends, after having used a brush, dipping the points of the pluggers in absolute alcohol, and then passing them through the flame.

On the whole the demonstration produced a very favourable impression, and Solila gold is undoubtedly worthy of a trial.

Yours faithfully,
W. SCOTT THOMSON, M.R.C.S., L.D.S.

62, *Brook Street, W.*,
April 2, 1896.

Books Received.

HANDELINGEN VAN HET NEDERLANDSCH TANDHEELKUNDIG GENOOTSCHAP (1e Serie, 1881-1890, 3e Aflevering). *Utrecht:* J. L. Beijers, 1896.

PATHOLOGIE DES DENTS ET DE LA BOUCHE, by le Dr. Leon Frey, with thirty-two illustrations. J. B. Baillière & Sons, pp. 274, with index.

The International Dental Journal, The Birmingham Medical Review, The Medical Press and Circular, The British Journal of Dental Science, The Dental Record, The Pharmaceutical Journal, The Chemist and Druggist, The Dublin Journal of Medical Science, L'Odontologie et la Revue Internationale d'Odontologie, The Edinburgh Dental Students' Society, The Ohio Dental Journal, Items of Interest, La Médecine Internationale, Guy's Hospital Gazette, The Transactions of the Odontological Society of Great Britain, The Evening Telegraph.

Letters and other Communications received from :—

Messrs. Burroughs, Wellcome & Co. (Tabloids of Caffeine) ; F. V. Richardson ; W. Scott Thomson ; S. A. Coxon ; Herbert R. Bowtell ; Secretary of the Dental Hospital of London ; Messrs. Krohne & Sesemann.

Appointment.

R. S. N. FARO, L.D.S.Eng., has been appointed Dental Surgeon to the Kent and Canterbury Hospital, *vice* M. L. Bell, L.D.S.Eng., resigned.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the monh.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL

OF THE

BRITISH DENTAL ASSOCIATION

A

MONTHLY REVIEW OF DENTAL SURGERY.

No. 5. MAY 15, 1896. VOL. XVII.

Professional Advertising.

THROUGH the untiring energy and devotion of Mr. Blandy, this question in its various phases has once more assumed an acute form amongst the members of our Association. That Mr. Blandy has worked long and hard in his endeavour to extirpate the evil from our midst, must be admitted even by those who have deprecated his methods, and who think that if his ideal had not been so lofty, his achievements might have been more substantial. The general press of the country is almost unanimous in its advocacy of this method of publicity, and as with increasing influence the press assumes extended prerogatives, it assumes to know the wants of the medical and dental professions in this matter better than we do ourselves. But in this we must claim to be our own guides, despite the monitory advice we have received as to our duty to the general public as well as to the profession—an advice which, by the way, does not appear to us altogether disinterested. The question, so far as our own profession is concerned, may be said to bristle with difficulties, not, perhaps, from any inherent characteristics of its own, but because of the variety of side lights cast upon it by the selfish views of some, the utilitarian views of others, and by the purist sentiments of the defenders of that professional reserve which is becoming to educated men who have to rely for their success, not alone on their own merits, but on their access to all the knowledge common to their profession. This knowledge, be it noted, is freely communicated to all who are capable of appreciating it and using it to the advantage of the general public.

The purely selfish view which induces men to advertise and to lure the public by specious promises all more or less dishonest, can hardly be said to come within the radius of professional discussion. What may be called the utilitarian view is entitled to more attention, as it, in a measure, may be considered of public interest.

The professional view is perhaps the most interesting to those who have at heart the importance of professional methods and their bearing upon the public well-being.

The utilitarian view is that which generally possesses the public mind, and professional advertising is continually advocated because it is supposed to be useful to the general public. Its inhibition has been described as a tribute to false notions of professional respectability and as an outcome of tight-laced etiquette, maintained with the object of keeping the older practitioners in possession of lucrative practices to the disadvantage of the younger ones and to the public generally. It has been urged that by advertising the younger members of the profession would be brought more readily into touch with the public, and also be enabled to utilise such degrees and medals and certificates of supreme merit as they may possess, thus giving the public a chance of employing their more modern and advanced methods of practice. The first thought that occurs to us when reading this form of advocacy is, when and how did these advanced youthful practitioners who are, by advertising, to supplant their seniors, receive their knowledge and the degrees and certificates which they are expected to publish to the world? Was it from persons of their own age and experience? If so where is their value? Seeing, however, that they are received from the senior members of their profession, they must, if of any value whatever, still point to their donors rather than to their possessors as the persons to whom the public must look in all cases of extreme gravity and obscurity, and these are the cases which fall mostly to the lot of the senior members of the profession.

Advertising would thus become a method of competition, not between the older and younger members of the profession, but between themselves. Happily the younger members of the profession know the sources of their knowledge, and they know where to look when in difficulties; they have been taught that in the possession of knowledge they have something which is for use and not for parade. The reticence which possesses the members of the profession in regard to prizes and certificates does not arise from a fear of offending either their seniors or an antiquated professional etiquette, but from a knowledge that the true value of such possessions can only be estimated by their fellow practitioners, and that the estimate formed of them by the public, and through them of their possessors, would most likely be false and misleading. The utilitarian forgets —or at least appears to forget—that advertising is a costly process, and to lead to the success he desires must be carried on in no narrow manner, but that the course once entered into must by force of competition become more and more extensive. Now a professional man has to rely upon his individual efforts, and so this extra expenditure must be met out of an income necessarily limited by such a condition. The professional advertiser must therefore re-imburse himself either by surcharging his patient, or by discharging his assumed duties in a hurried and perfunctory manner, or by relegating to others the responsibilities which in his advertisements he undertakes himself. Now if we can suppose that his representatives are inferior to himself only in age, what then? Again, we must remember that the dissatisfied older practitioner has also power to advertise—unless the advertising agent is to set up a censorship and ask for a certificate of age—where then does the advantage to the young practitioner or to the public come in?

The obvious tendency of the system, even in its mildest form, is to establish a growing familiarity with a deviation from a usage based on public expediency, leading to a lower and lower conception of that self respect in professional men which is the only safeguard of the public. The need of advertisement by those who visit different small towns periodically is freely recognised in our bye-laws. Such notices need not, however, degenerate into the category of competitive advertisements, although we regret to observe that they are sometimes made the vehicle for information not germane to the purpose of their being. This is an abuse of a concession which we regret, and would fain see kept within proper limits.

The professional objection to professional advertising was summed up by Mr. Tomes in his address at Newcastle; he said:—"The merchant advertises his goods, the professional man advertises himself." This may be further enforced by considering that the professional man, in advertising, makes use of what is not solely his own, but of that which belongs to all his colleagues, and by no proprietory right can he claim the power of demanding from the public a higher appreciation of his ability than that which he receives spontaneously from his professional brethren. The great distinguishing feature of a profession is that there are no professional secrets between its members. Whatever discoveries are made become at once the property of its members, and so are made available for the public benefit. In the medical profession many such developments are the result of long years of self-sacrificing labour, and not infrequently of dangerous experiments made upon the person of the discoverer. The same condition applies to dentistry, and the advances which have been made in the practice of our speciality would have been quite impossible in the presence of that essentially commercial spirit which belongs to advertising. Whether, therefore, a practitioner advertise the possession of an occult secret or his own claims as a practitioner, he is pursuing a course injurious to the public and to the beneficent objects of the profession to which he belongs. In the first instance he limits the benefit of his secret to the narrow sphere of his own influence, and in the other he weakens that social consideration always extended to the professional man whose great object is the conservation of his professional integrity, by the knowledge and care with which he treats his patients.

The article reprinted in our present issue from the *Law Times*, is an expression of opinion elicited by the case which has just been tried at the Leeds assizes. In the face of such a dreadful calamity we cannot trust ourselves to speak freely of the state of the Law which admits the possibility of such an occurrence, but it is no doubt entirely due to the public jealousy of the medical profession. We may rest assured that while this unreasoning jealousy continues, such calamities and the hundreds of other minor and unreported events which occur daily will go on, and while the many minor events pass unnoticed, we shall every now and then be startled by the renewed demonstration of the dangers unwittingly incurred by the strongest and healthiest amongst us, who entrust themselves to those who undertake to perform that for which they have no proper training. The respectable practitioner refuses to give such people a character of respectability by joining their ranks, and prefers to be distinguished by not advertising. This is the advertisement of the non-advertising reputable practitioner.

The Presidency of the Representative Board.

THE end of three years' service has brought with it the withdrawal of Mr. Hutchinson from the Presidency of the Representative Board. It is not too much to say of this position that it is one of more than ordinary difficulty, seeing how many conflicting opinions meet in both the Business Committee and Representative Board meetings. There are two leading conditions necessary to prevent this conflict becoming disastrous. The first is a pervading consciousness that however much we may differ, our objects are the same. The second is the presence of a chairman who can be at once courteous and firm. These two conditions have been most fully met during Mr. Hutchinson's term of office, and for this fulfilment we have to thank the late president. Under all circumstances he has been most patient and conciliatory, and the regret of the Board was that his resolution to retire could not be altered. His successor is Mr. Howard Mummery, a gentleman on whom we can all place the utmost reliance, and our sincere hope is that on his retirement an equally competent successor may be found to follow him, as has been found to follow Mr. Hutchinson.

PAPERS AND DEMONSTRATIONS AT THE ANNUAL GENERAL MEETING.

The Hon. Sec. of the Association will be pleased to hear from any members wishing to read papers or give demonstrations at the forthcoming Annual General Meeting.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

Representative Board.

A meeting of the Representative Board was held at 40, Leicester Square, on Saturday, May 2, at 2.45 p.m. Present: Mr. S. J. Hutchinson, President, in the chair; Mr. W. H. Breward Neale (Birmingham), Vice-President; Messrs. J. J. H. Sanders (Barnstaple); A. H. Smith (Boston); F. Richardson (Brighton); G. Cunningham, R. P. Lennox, W. A. Rhodes (Cambridge); J. T. Browne-Mason (Exeter); J. C. Storey (Hull); G. Brunton (Leeds); H. Blandy (Nottingham); I. Renshaw (Rochdale); Frank Harrison (Sheffield); W. E. Harding (Shrewsbury); A. A. Matthews (York); J. Ackery, Storer Bennett, E. G. Betts, F. Canton, W. H. Coffin, L. Matheson, W. B. Paterson, Hon. Sec., L. Read, J. Smith Turner, J. Walker, M.D., and W. H. Woodruff (London).

The minutes of the last meeting were read and signed.

Letters regretting inability to attend were received from Messrs. Rees Price, S. Spokes and Dr. John Smith.

Business arising out of the minutes was first taken, and the question of advertising occupied a large portion of the time of the meeting. Messrs. Blandy, Smith Turner, Lawrence Read, Canton, Cunningham, Storer Bennett, Matthews, Brunton, Matheson, Harrison, Renshaw, Storey, Dr. Walker and others, took part in the debate.

The TREASURER'S interim Report showed a satisfactory state of the finances of the Association. He referred to the subscriptions' arrears' list, and hoped to see it reduced to vanishing point after the issue of his reminder. He acknowledged on behalf of the Association a gift of £10 10s. from certain Cardiff dentists towards defraying expenses in the recent cases of successful prosecution in that town.

The HON. SECRETARY submitted a report from the Business Committee on Bye-laws 15 and 18, in which the recent expressions of opinion on the part of the Branches of the Association on the constitution of the Representative Board had been given effect to, as far as was possible. He explained the various alterations which had been made.

Mr. BROWNE-MASON said that the feeling in the Western Counties Branch was strongly in favour of election of one representative to the Board in addition to the President and Hon. Secretary of the branch. He moved the adoption of Bye-law 15 as drafted by the Business Committee.

Mr. CUNNINGHAM seconded.

Carried *nem. con.*

The bye-law would read as follows :—

"*Bye-law* 15.—The Representative Board shall consist of the President, President-Elect and Vice-Presidents of the Association, and of at least forty Members, including the President and Vice-President of the Board, the Treasurer, the Hon. Secretary, and the President and Hon. Secretary for the time being of each branch of the Association, *and of Members elected by the branches*, *and Members elected by the Association.*"

On Bye-law 16 as drafted by the Committee, Mr. HARDING suggested the addition of words making the election of the Branch representatives an annual one.

Mr. CUNNINGHAM expressed his approval of the alteration made by the Business Committee in 1892 rather than the present one. He considered Presidents of branches coming up to the Board for one year had no time to become acquainted with its business. He preferred to see a branch represented by a man who could find time to devote to the work and who would be elected or re-elected annually as the case might be.

Mr. BROWNE-MASON having moved that Bye-law 16 with the addition suggested by Mr. Harding stand as drafted, Mr. Harding seconding :

Mr. CUNNINGHAM moved an amendment to omit the Presidents of branches as *ex-officio* members.

The PRESIDENT ruled that such an amendment was out of order, as the Board had just passed Bye-law 15 which actually included the Presidents of branches, and which had been seconded by Mr. Cunningham himself.

Mr. CUNNINGHAM then moved an amendment to reduce the members elected by the whole Association by Ballot from 10 to 6, and to give the branches two representatives in addition to the President and Hon. Secretary of each.

Mr. RENSHAW seconded.

Mr. BENNETT said he failed to see the advantage of the proposed alteration in the amendment. Without casting reflection on any branch, he thought it must be generally conceded that the whole Association was of more importance than any one branch, but by the amendment branches would have much more representation than the whole Association.

Mr. ACKERY asked for information as to the exact requirements of the branches as expressed in the replies sent in.

The PRESIDENT said that seven out of eight branches desired to elect representatives; there were differences, however, amongst them as to the exact way in which such representation was to be arrived at, and he read extracts from the minutes on the subject. The Business Committee had endeavoured to harmonise these differences in the report before the Board.

Mr. SMITH TURNER thought that the Secretaries of the branches were very important members of the Business Committee and Board, and ought to be retained.

The PRESIDENT was of the same opinion.

Mr. RHODES said the Eastern Counties Branch had expressed itself, in its reply to the Hon. Secretary, in favour of its President and Hon. Secretary being retained as members of the Board.

Mr. CUNNINGHAM said the Branch had re-considered the matter since then, and there had been an alteration of opinion.

Mr. RHODES agreed that was so.

On a vote the amendment was lost, and the bye-law as moved by Mr. Browne-Mason agreed to, viz. :—

"'*Bye-law* 16.—After the Members of the Representative Board, elected by the unincorporated body called by the same name, at a meeting held on March 3, 1879, have held office for two years, ten Members of the Board, selected by the members of the Board, shall retire annually.' The vacancies thus created shall be filled up by the Members of the Association by general ballot from such of their number as have been nominated by not less than six Members of the Association; such nominations must be received by the Hon. Secretary not less than 30 days before the Annual General Meeting. In addition to its representation by the President and Hon. Secretary, each branch shall annually elect one Member to the Representative Board, who shall hold office for one year.

Mr. BROWNE-MASON moved that Bye-law 17, as drafted by the Business Committee, stand as at present. It was consequential upon the preceding bye-law and referred only to the method of voting.

Mr. ACKERY seconded.

Dr. WALKER supported the motion, which was agreed to *nem. con.*

"*Bye-law* 17.—In order to carry out the election of the ten Members of the Representative Board elected annually by the Association, the Hon. Secretary shall issue voting papers to the Members of the Association as soon as possible after the nominations of candidates for election have been received, returnable ten clear days before the Annual General Meeting, and the voting papers so returned shall be examined by the President of the Representative Board in the presence of the Treasurer and Honorary Secretary, who shall have power to ask any other Member or Members of the Association to assist in counting the votes, or to take the place of an absentee, the result of the ballot to be announced at the Annual General Meeting.

"All Members of the Representative Board elected either by the whole Association or by branches, shall hold office from and after the termination of the Annual General Meeting at which their election is announced.

"All retiring representatives shall be eligible for re-election."

[*Alterations consequent upon the foregoing bye-laws as agreed to* :—

Bye-law 18, as at present known, will be cancelled, and new Bye-law 16 will take its place. The present Bye-laws 16 and 17 will become 18 and 19 respectively, and the numbers, therefore, of the present Bye-laws 19 to 33 will be raised one, *e.g.*, 20 to 34.]

The PRESIDENT referred to the case of Regina *v.* Priestley, in which an unregistered "dentist" gave chloroform to a girl who died from it. The man was committed on a charge of manslaughter, and the trial was to come off at the ensuing Bradford Assizes.

Mr. MATTHEWS thought the case should be watched on behalf of the British Dental Association.

Mr. WOODRUFF moved that Counsel be instructed accordingly.

Dr. WALKER seconded.

Mr. BRUNTON remarked that the Bradford and General Press had alluded to Priestley as a "dentist."

Mr. NEALE supported the motion, which was agreed to.

Certain other business submitted by the Business Committee was then discussed.

The resignation of Mr. Balkwill through ill-health was accepted with regret, and the President undertook to write Mr. Balkwill on behalf of the Board expressing sympathy with him and thanks for his many services to the Association.

The PRESIDENT said they had now come to the last matter on the agenda, and he to the end of his term of office. He did not propose at that late hour of the meeting to detain them with a speech. He had thought of giving an address, but he felt now at the last moment he could not. He wished, however, to thank them for the great kindness and forbearance they had always shown him. He expressed his deep sense of obligation to the officers of the Association, to the two Treasurers, and especially to the Hon. Secretary, of whom it was impossible to speak too warmly, for their valuable assistance to him during his term of office. He might perhaps be allowed to refer to one or two points of interest in passing. He had noticed that the branches in the arrangement of their Annual Meetings often clashed with one another, and it had occurred to him that possibly the Hon. Secretaries at the commencement of the year might avoid this by mutually arranging them as fixtures.

One other matter he would allude to, and that was the fact that a considerable number of members were not attached to branches, some 280 he believed. He should like to see the hon. secretaries successful in claiming these gentlemen within their respective areas of influence. He wished to see all members, members of branches. Possibly some reconstitution of the branches on a better geographical basis than at present obtained, might help to this end, and thus render them more accessible to different members who might wish to belong. He felt very strongly that the power of the Association for good largely depended upon the strength of the branches uniting in one common cause for the advancement of the work of the Association, and it was only upon this *union in aim* and *in action* that the future success of the Association depended.

The last matter of business he had to put before them was the nomination of his successor.

Several members had honoured him with their confidence by a requisition asking him to remain for a further period in office. He felt it a compliment to be asked, and he deeply appreciated it. If he had felt that he could have given his earnest attention to the business attaching to his office for another three years he would have been happy to have offered his services, but he could not, and he therefore thought it would be in the best interests of the Board, and the Association, that he should be allowed to retire, much as he regretted it.

In asking them to appoint his successor he would only say that he believed there was no position in the British Dental Association which could be considered more responsible for any one to occupy than that of the President of the Representative Board.

Mr. BREWARD NEALE said he rose with considerable feelings of regret to propose the name of a gentleman as President of the Board, for he had hoped that it might have been possible for Mr. Hutchinson to continue to preside over them. As that, however, could not be, it only remained to him, before submitting his proposal, to thank Mr. Hutchinson for his very able conduct in the chair. He begged to propose that Mr. J. Howard Mummery be appointed president. He ventured to think that the name of Mr. Mummery was alone sufficient to recommend him, and no words of his (Mr. Neale's) could add to the respect they all entertained for Mr. Mummery. He would only say of Mr. Mummery that in following Mr. Hutchinson he had not an easy task, but they felt every confidence in his complete success.

Mr. STORER BENNETT had heard of the intended retirement of the President with the deepest regret, and he felt sure that every member would be anxious to join with Mr. Neale in offering a most hearty vote of thanks to the President for his valuable services in the chair. It had been proposed that Mr. Mummery be appointed as President of the Board, and he had the greatest pleasure in seconding that. Mr. Mummery was well known in the scientific world, and his work had been so meritorious as to command general respect. He believed that as President of the Board he would, in the fulfilling of his duties, equally command their esteem.

No other name being proposed, the PRESIDENT put the motion to the meeting, and it was carried unanimously.

Mr. Hutchinson then quitted the chair, and Mr. Breward Neale as Vice-President occupied it.

Mr. SMITH TURNER said he rose with great pleasure, and at the same time great regret, to propose a vote of thanks to Mr. Hutchinson for his past services in the chair. He had been most assiduous in his attendance, and it must be a great comfort to know at the termination of office, that he had passed scatheless throughout and without making many enemies. One might go through a long life before finding a chairman who could conduct business without creating enmity, as Mr. Hutchinson had done. He parted with Mr. Hutchinson with regret, for he had united many good qualities in him during his term of office. He had been, he need hardly remind them, generous, hospitable, patient, careful in explanation of the dry and dreary routine of business. He asked all present to join him in according a most cordial vote of thanks, and he asked Mr. Hutchinson to believe that their vote was as sincere as it was cordial.

Mr. RENSHAW, in seconding, desired to express the pleasure it always afforded him to attend the meetings presided over by Mr. Hutchinson. He had presided over them with a degree of urbanity and fairness that, no matter how crotchety the question under discussion might have been, no one had ever left the meeting with a feeling that he had a sore place.

Mr. BREWARD NEALE put the vote to the meeting, and it was carried by acclamation.

Mr. HUTCHINSON said he thanked the members most sincerely for their vote of thanks, and Mr. Turner especially for the very kind words he had used in reference to his services. They had a double meaning to him, because he knew Mr. Turner so well. In time of need Mr. Turner had helped him out of very "tight places," and therefore it was only Mr. Turner's due that he should thank him the more particularly. He desired to thank Mr. Pink, their secretary, for his incessant care in the transaction of the routine business of the Association. With such able assistants duty was made light. He thanked the members one and all, and felt he could say no more.

Midland Counties Branch.

THE Sixteenth Annual General Meeting of the Members will be held at Sheffield on Friday, June 26 ; the programme is as follows :—

Thursday evening, June 25.—Council Meeting at the Wharncliffe Hotel, King Street, at 8 p.m. Informal gathering at the Wharncliffe Hotel, King Street, at 9 o'clock. Music, &c.

Friday, June 26, 10.45 a.m.—Business Meeting (Members only) in the Lecture Hall, Firth College.

12.15 p.m.—President's Valedictory Address by Mr. J. C. Storey, L.D.S. ; open to Visitors. President's Inaugural Address, by Mr. Frank Harrison, M.R.C.S., L.D.S.

1 p.m.—Adjournment. The President invites the Members and their friends to lunch at the Masonic Hall, Surrey Street (carriages will be provided to convey Members from the Masonic Hall to the Sheffield Royal Hospital).

2.30 p.m.—Demonstrations at the Royal Hospital. The following gentlemen have kindly promised to demonstrate :—Mr. J. C. Storey, L.D.S. ; Mr. I. Renshaw, L.D.S., on the "Making of Seamless Gold Crowns ;" Mr. J. C. Birch, L.D.S., on "Dr. de Trey's Solila Gold ;" Mr. Catt, L.D.S., on the "Treatment of Putrescent Pulp Canals with Kalium Natrium ;" Mr. R. C. Heaton-Drabble, L.D.S., on the "Advantages of Husband's Pluggers in Gold Filling ;" Mr. W. C. Harding, L.D.S., a Demonstration.

4 p.m.—Discussion on demonstrations.

7 p.m.—Dinner at the Masonic Hall ; tickets 7s. 6d. each (exclusive of wine).

Saturday, June 27.—An excursion will be arranged to the Dukeries. The party will leave the Victoria Station, Sheffield at 9.33 a.m. for Worksop, where carriages will meet the train and convey the party through Clumber Park, Thoresby, Sherwood Forest and Welbeck, returning to Worksop Station in time to catch the 4.24 train, arriving at Sheffield at 4.55. Tickets 7s. 6d. (including lunch).

It will be necessary for Members to return their reply post-cards promptly, in order that adequate arrangements may be made.

I. RENSHAW, *Hon. Sec.*

87, *Drake Street, Rochdale.*

Eastern Counties Branch.

THE Annual General Meeting will be held at Ipswich, on Saturday June 27—President, R. P. Lennox; President-elect, W. A. Rhodes.

The following arrangements are proposed for those attending the Amsterdam meeting:—

On Sunday morning, a drive through the city; in the afternoon a steamboat excursion; in the evening, dinner.

Monday to be exclusively devoted to the reading of papers, &c.

Special terms are being arranged with the Great Eastern Railway Company for fares to Amsterdam.

A detailed programme will be published in next month's Journal.

W. A. RHODES,
Hon. Sec.

3, *Silver Street*,
Cambridge.

Benevolent Fund.

THE following new subscriptions have been received since the publication of the last list:—

Vinsen, F. H., 24, St. Peter's Hill, Grantham (per A. Hopewell Smith, Local Representative)	£0	10	6
Reeves, S. G., 15, Rathmines Road, Dublin	1	1	0
Stoner, C. B., 44, Western Road, Hove, Brighton (per F. V. Richardson, Local Representative)	0	5	0
Hoole, Stephen, 16, Old Burlington Street (per F. V. Richardson, Local Representative)	1	1	0
Lennox, R. P., 57, Corpus Buildings, Cambridge	1	1	0
Donations.			
Southern Counties Branch of British Dental Association, collected at meeting, April 18, 1896 (per F. V. Richardson, Hon. Sec. Southern Counties Branch)	3	3	0
Western Counties Branch of British Dental Association, collected at meeting, August 2, 1895 (per J. T. Browne-Mason)	3	15	0

Appointments.

C. S. PRIDEAUX to be Hon. Dental Surgeon to the Dorset County Hospital (Dorchester) and Swanage Cottage Hospital (Swanage).

G. W. WOOD, L.D.S., to be Honorary Dental Surgeon to the Retford Dispensary and Cottage Hospital.

Original Communications.

Observations on a Series of 550 timed Nitrous Oxide Cases.*

By T. SYDNEY SHORT, M.D.Lond.

PHYSICIAN TO THE CITY INFIRMARY, ASSISTANT PHYSICIAN TO THE GENERAL HOSPITAL, AND HONORARY ANÆSTHETIST TO THE DENTAL HOSPITAL, BIRMINGHAM.

During the last three years record has been kept on my mornings at the Birmingham Dental Hospital of the main points in connection with nitrous oxide administrations. I was first attracted to these researches with the purpose of observing whether the duration of the periods of inhalation and anæsthesia corresponded with published records; but from time to time opportunities have also occurred for remarking other facts associated with the administration of the gas. The observations made by me on these occasions I have set forth in a paper which has no pretensions beyond the statistical.

Complete records have been kept of 553 cases; of these 436 were females and 117 males, showing a proportion of 4 to 1. Their ages varied from 6 to 59 years; the average age of the whole series being 22·5.

The patients treated at the Birmingham Dental Hospital belong almost invariably to the poorest classes. A few are drawn from the lower middle class, but by far the greater number are gathered from the large population of factory hands and operatives of this manufacturing city. It will be seen from my figures that the number of women and girls to whom nitrous oxide is administered, greatly exceeds the total number of men and boys for whom the anæsthetic is deemed advisable.

Five hundred and fifty-three does not represent the total number of administrations of nitrous oxide which I have conducted on my morning. It frequently happened that cases could not be properly timed, but only cases of undoubted accuracy have been admitted to my series. Re-apply cases,

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* A paper read before the Society of Anæsthetists on Thursday, January 16, 1896.

i.e., re-administrations of the gas before complete recovery, have not been included, otherwise the cases have all been taken consecutively without selection. The figures which I would bring before your notice to-night have been recorded with considerable care, and have been audited for me by a professional auditor. I submit them in the hope that they are as correct as is possible in observations of this nature.

In order rightly to estimate the value of observations it is essential to know the conditions under which they were made. In all the cases referred to in this paper I administered the nitrous oxide myself. I have made it a rule to insist upon having the dress loose and the stays unfastened, before any female patient takes her place in the chair. I think this is an important precaution. In the case of private patients, objections are often raised when nitrous oxide alone is to be administered; I have never met with the least argument when ether or chloroform was to be given, but nitrous oxide is looked upon by many people as something quite trivial. Nevertheless I consider that a free expansion of the lower part of the chest is essential for the satisfactory inhalation of the anæsthetic. After getting the patient ready, the nurse, who turns on the gas for me with a hand lever, times the periods of inhalation and anæsthesia, and does not leave her post till the patient recovers from the anæsthetic condition. On the wall opposite to her I have a clock placed, furnished with a sweep second hand, and I call out the second at which I allow the gas to pass through the face piece, and at the end of the administration, the second at which I consider the anæsthesia is over. The nurse herself notes the time when I hand the bag to her at the termination of the inhalation. She is thus enabled easily to calculate the separate periods of inhalation and of anæsthesia. To determine exactly when the patient comes round is not always easy. There are two distinct conditions to be encountered: (1) when the anæsthesia exceeds the time absorbed by the operation, and (2) when the operator is at work up to the last moment. When the extractions are over and the patient is still unconscious, I usually tell him to look at me, and repeating the order till it is obeyed, I then say, "Lift up the right hand." The termination of the anæsthesia lies somewhere between the moments at which these two movements are severally performed, and is usually about three seconds after the deviation of the eyes towards the speaker. When the operator continues his extractions to the end, the second at which the patient comes round must be judged almost entirely by his or her behaviour. The assistant surgeon of the day, who is present in the room, the house surgeon who assists, and the students who watch the proceedings, have all helped me with the figures. In any case where the exact moment of recovery has appeared doubtful we have had a friendly consultation, and the time noted in my book has been entered only after an unanimous decision. This time has been afterwards checked by the sensations of the patient. For example, if we have agreed that the anæsthesia ceased before "that last bit was extracted," and the patient has subsequently affirmed that no pain whatever was felt, it is obvious that the anæsthesia lasted at least as long as the operation. On many occasions the times have been simultaneously taken by several independent observers, and the results carefully compared in order that the figures might be as accurate as possible. I have never actually timed the cases myself, because I think the anæsthetist should attend absolutely to the patient, rendering at the same time every possible assistance to the dentist. The gas used at the Dental Hospital is that made by Parkinson; it costs 4s. 9d. a cylinder of 100 gallons. On one solitary occasion a cylinder of the Oxygen Company's gas was used for one patient.

I have recorded these points in detail because I, for my own part, always approach statistics with suspicion, and unless I know exactly how they have been arrived at, and the attendant conditions, the suspicion becomes strongly tinged with incredulity.

Administrations of Nitrous Oxide alone.—Of the 553 cases, 411 had nitrous oxide administered without the admixture of air. Great care was taken to prevent any air passing in between the patient's face and the mouth-piece. It is very probable that air does pass in more frequently than is generally supposed. Four hundred and eleven, then, is the number of nitrous oxide cases pure and simple; of these, 308 were females and 103 males, almost exactly in the proportion of 3 to 1. The ages of the females varied from 7 to 53 years; those of the males from 6 to 48. The average age of the whole 411 cases was 22, and the average age of the males was nearly the same as that of the females, the separate averages being 22·3 and 22·8 respectively. I was particularly anxious to see how the periods of inhalation and of anæsthesia would work out, and was surprised to find that the inhalation period for the whole 411 cases averaged 49·4 seconds—a much shorter time than I anticipated. The average given by the Odontological Society of Great Britain (as quoted by Dr. Silk and Dr. Dudley Buxton) * is for males, females, and children under 15, the extraordinary number, 73·3. Between 73·3 and 49·4 there is a considerable difference. Dr. Hewitt † found that 51 seconds was the average of his 40 timed cases at the London Dental Hospital. It will be seen that his figures and mine are much more in accord. The period of available anæsthesia in my cases was 41·9 seconds—perhaps a rather longer time than is generally expected. I find that Dr. Hewitt's 40 cases yielded him an average of 42·1 seconds. The Odontological Society gives 24·7 seconds as the average length of anæsthesia in men, women and children taken together, surely a number far too small to be accepted as a standard. In reviewing the averages of these periods in the different sexes I found that the inhalation and anæsthetic periods in males were 50·7 seconds, and 42·6 respectively; whereas in females they were 48·8 and 41·3, showing a slight diminution in the available anæsthesia on the side of the females. This, again, is not quite what I had expected, for it is generally considered that as a rule females remain under for a somewhat longer period than males. The average number of teeth extracted for these 411 patients was just three apiece.

Let us look for a moment at the behaviour of the children. Gas alone was administered to 25 children of 12 years old and under; 16 of these were girls and nine boys. Their average age was 10·6. The average period of inhalation was 41·7 seconds, and of anæsthesia 33·3 seconds. Taken separately, the boys presented a slight excess in the period of anæsthesia, viz., 34·4 seconds as compared with 32·6,

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* "Nitrous Oxide Anæsthesia," by J. F. W. Silk, M.D., pp. 66 and 70. "Anæsthetics," by Dudley W. Buxton, 1888.

† "Anæsthetics and their Administration," by F. W. Hewitt, M.D., 1893.

and a corresponding excess in the inhalation period, 43·2 as against 40·7, which seems to show that little boys are on the whole better patients than little girls.

On two separate occasions I administered gas with success to a little boy of 4. The nurse was engaged holding the baby's hands, and I could not get the time accurately taken, so this case does not find a place in my series. I mention it because this is the youngest patient to whom I have successfully administered nitrous oxide.

Comparing these figures which relate to administrations of nitrous oxide alone with those published, it will be seen that they vary very considerably from those of the Odontological Society, whilst they agree in the main with those published by Dr. Hewitt.

Administrations of Nitrous Oxide with Air.—Turning now to the cases in which air was administered with the gas, my 553 cases included 142 of these. Here, again, the females largely preponderate, being 128 as compared with 14. As a rule I have only added air in the case of men and boys who were anæmic, feeble, or approaching the female in type. This accounts for the small number of males on the list. The average age of these gas-and-air cases together was 21·6; the average inhalation period 50·5, and the average anæsthetic period 48·3, showing by the admission of a little air an average gain of 7 seconds per patient.

The method adopted for admitting air has been that of giving one full breath, by opening the slot from the seventh to the tenth breath, and again at about the fifteenth. None of my cases had more than two full breaths, and even in several of these the jactitation has been excessive, and the gas had to be pushed rapidly at the end to produce complete anæsthesia before the movement increased to such an extent as to render operating almost impossible. It is generally stated that by admitting air to the face-piece the occurrence of jactitation is avoided. This has certainly not been my experience with the gas in use at the hospital. Since the completion of this series I have been adopting the method of admitting the air gradually and continuously by keeping the slot open a little way during the whole time. In this method there has certainly been less tendency to jactitation, but in the few cases that I have been able, up to the present, to record, the period of anæsthesia has not been much increased. I am now engaged in making further observations on these points.

Comparing in these gas-and-air cases the males with the females, I find here that the anæsthetic period of the females was the longer, being 48·3 as against 46·6 for the males. The inhalation period, as might have been expected, was also longer, 50·8 as compared with 47·6. The average number of extractions in the gas and air cases was 3·8. By the addition of air, then, each patient was credited with $\frac{1}{8}$ of a tooth in excess of the average 3.

Seventeen children of 12 years and under took the gas and air together; of these 13 were girls and 4 boys. Here once more the males proved the better patients, giving an available anæsthesia of 41·2 as against 39·7 for the girls. The average age of these children was 10·7, the average inhalation period 43·4, and the average anæsthetic period 40·6. This shows that an average increase of 7 seconds' anæsthesia was obtained by the addition of air, which proves the advisability of allowing air to mix with the gas in anæsthetising children.

Cases of an Age above 45 *Years.*—A few words now with regard to cases of an age above 45 years. Of these I have made a separate list, and find that it includes 14; 8 of these were females, with an average age of 50, and 6 were males with an average age of 49. It is interesting to remark that the anæsthetic period in these cases averaged 46·9 seconds, a distinct increase of 5 seconds over that of the whole series. In the 6 males it was 50 seconds, and in the 8 females 44; the inhalation period being 57·9 for males and 51·9 for females. With the exception of one woman who had one breath of air, all these cases had gas only. This one case scarcely disturbs the average, and certainly not in the direction of increase, because the 40 seconds' anæsthesia she gave is below the average. As in all the other periods of life when gas alone was used, the males proved the better patients.

These figures tend to show that the rapidity of the anæsthetic influence of nitrous oxide decreases steadily with age up to 60 years, that is to say, both the inhalation and anæsthetic periods increase as age advances. Up to the present

I have not had an opportunity of making records of cases of over 60 years of age.

Cases of over 55 *seconds' anæsthesia.*—Of the 553 cases, 88 gave an available anæsthesia of 55 seconds and over. This includes 58 cases of nitrous oxide and 30 of nitrous oxide with air. The fact that the number of the cases which showed a marked excess over the average period of anæsthesia was in those taking nitrous oxide nearly double that of those who took the gas with air, suggests a personal peculiarity in the patients, for it would be naturally expected that in this section the gas-with-air cases would preponderate. The number 88 included 72 females and 16 males; the proportion of females is therefore rather above that of the normal proportion in the whole series. The ages varied from 12 to 48, and the average age of the whole 88 was 23 years. Only 2 of these cases were below 15 years of age. Both were little girls; 1 aged 12 had gas only and gave 35 seconds' inhalation and 60 seconds' anæsthesia; the other aged 14 had gas and 1 breath of air and gave also 60 seconds' anæsthesia but 40 seconds' inhalation.

An extraordinary anæsthesia of over 75 seconds was noted in 10 cases. Of these long cases 2 only were males; 5 had nitrous oxide alone and 5 had air admitted in addition.

The longest case of all that I have recorded was that of a girl, aged 21, who inhaled the gas alone for 52 seconds and remained anæsthetised for 112 seconds—a minute and 52 seconds. A large number of fangs and small pieces were removed, and on coming round she said she had felt nothing at all. It was suggested at the time that this girl might have passed from the nitrous oxide intoxication into a condition resembling hypnotism. If this were so it was certainly not due to any conscious action on my part. But whatever the cause, the anæsthesia was good to the end.

Complications and After-effects.—It has been my invariable rule to examine the heart before administering an anæsthetic of any kind. In general I believe this precaution is omitted before giving the gas, but I think it should always be taken. It serves not only to put the administrator on the *qui vive* but also to afford a valuable safeguard in case of accident. In this way I found that 5 out of my whole series suffered from heart disease; 4 of these were cases of regurgitation through the mitral valve, and 1 suffered from disease of more than one valve of the heart. Each of these patients took the gas well, and the length of the anæsthesia was 25, 35, 70, 40 and 50 seconds respectively. My series included 1 case of exophthalmic goitre, a woman aged 29; she also took the gas very well, and gave an anæsthesia of 35 seconds.

During the whole of this series I only encountered one case in which I had the least cause for alarm. It was that of a little girl whose breathing became embarrassed soon after the removal of the face-piece. She became very cyanosed, but recovered when placed on the floor by means of the method I always employ, which consists in lowering the head rapidly over the right arm of the chair and supporting the patient's back with my knee as the trunk slips to the ground. After the first few breaths she was all right again.

Here I may be permitted a digression to mention a case where the administration of nitrous oxide very nearly proved fatal. The patient was a maiden lady who had been a chronic invalid all her life, always confined to the house in bad weather and restricted to gentle walks about the garden well wrapped up in shawls even when it was fine. Mr. Breward Neale sent her to me to know whether it would be advisable for her to inhale the gas. I went into her case carefully, and came to the conclusion that she had had three attacks of pleuro-pneumonia on the right side, and that on the left the lung was in a markedly fibrosed condition with dilated bronchi and adherent pleuræ at the base. I also strongly suspected that she had an adherent pericardium. It was not at all a satisfactory case for an anæsthetic of any kind. After a consultation with Mr. Neale, who told me that the extractions he contemplated were absolutely necessary, I thought that the shock to such an extremely nervous lady would be as dangerous as the administration of the gas, and I decided to give the nitrous oxide. We took the precaution to have her lying down on my sofa with the head raised. She became very rapidly anæsthetised and markedly cyanosed. The breathing was stertorous while the teeth were being quickly extracted, and the cyanosis deepening she went nearly black, and her breathing stopped. I had my finger on the temporal artery as the operation proceeded, and felt the pulse become small and rapid. There is no doubt that for a few moments this patient was in the greatest danger. The small black shrivelled-up tongue was caught in the forceps with some difficulty and pulled out, while Mr. Neale rapidly inverted the patient by holding up the legs. After a few compressions of the chest the breathing recommenced with a long drawn stertor and continued without another break. Directly the breathing had fairly started again a nitrite of amyl capsule, which I always have in readiness, was broken before her face and the pulse improved in volume almost immediately. What was the actual condition of the pulse during the few seconds of melanotic cyanosis I really cannot say, being at the time too much occupied. For about two hours after the administration she experienced a feeling of faintness, and the heart was irregular in action with a pulse both small and weak. When she left my rooms at the end of this time she said she felt "as well as usual;" a term which I must candidly admit was quite inadequate to express the state of my own feelings in the matter.

At the beginning of this session, in a case where I was giving the gas for Mr. Cave-B.-Cave, I encountered what might be called a complication. The patient was a lady, aged 25, who said that she could not take gas. It had been tried some years previously, and she did not recollect exactly what happened, but she knew that the tooth was still in, and she rather thought that when she came round screaming they were holding her down on the floor. This certainly did not sound as if everything had gone altogether smoothly. I could find nothing about her to suggest a possible difficulty, and proceeded to administer the gas. After about thirty seconds she suddenly stopped breathing. The breasts heaved very slightly, and she made a peculiar sound in her throat, but no breath passed through the valve. This sound was neither a false nor a true stertor. It resembled a soft whistling coo, promising a snore if the breathing became more forcible. When the breathing stopped the face had not changed perceptibly in colour, and I kept the facepiece in position waiting for the occurrence of cyanosis. None appeared, and the temporal pulse remained full and firm under my finger. I then compressed the chest and she took a good breath, but relapsed at once into her former condition.

The presence of the eye reflex told me that she was not really anæsthetic, but still the sound went on. For a few moments I did not quite know what to do, whether to remove the facepiece and start again, or wait. I could feel from the position of the jaw that the impediment was not due to the slipping of the prop, and knowing that while the pulse remained so good and the colour unchanged there could be no danger, I decided to wait, and I waited. For quite thirty seconds this condition of things went on, and then suddenly the respiration became natural, and in a few breaths the colour began to darken, and the case terminated with a satisfactory anæsthesia and subsequent recovery.

I think that what had probably happened in this curious case was as follows: spasm occurred of the vocal cords and also of the aryteno-epiglottidean folds, not sufficient to produce stoppage of the air current. The absence of vibratory stertor was probably due to the fact that the current of air was not sufficiently forcible to throw the epiglottidean folds into vibration. Some air must have passed through the vocal cords or no sound would have been produced. It seems likely that it was breathed in and out of the facepiece only, not having sufficient power to raise the expiratory valve. Even then, however, one would have expected cyanosis to supervene, but no change in colour was detected. From what the patient had told us, it is easy to surmise that some similar event had occurred at the attempt at administration some years before. The unusual noise was very probably taken for stertor and the facepiece removed. Anæsthesia was not complete, and at the first evulsive attempt the patient struggled and succeeded in eluding the forceps by promptly vacating the chair.

After-effects. — The after-effects which may be directly ascribed to the gas were very few. Slight headache was the commonest; this usually passed off before the patient left the hospital. Not more than twelve patients were sick, and this result may have been due in several of the cases to blood swallowed during the operation. Some of the girls have been inclined towards hysteria, five in all; but I have not seen any attack that I could call an hysterical fit. The nearest approach to it occurred in a girl, aged 23, who took the gas twice at an interval of a week. On each occasion she screamed with the vigour of a steam-siren from the time the first tooth was removed to well into the second minute after recovery. We were almost disappointed to find that in spite of this deafening row she had suffered no pain at all.

In October of last year there came under my notice an after-effect which might have proved serious, and is sufficiently unusual, I think, to merit citation. I was asked to give gas to a young married lady who was known to have apical phthisis, and who was said to be rather hysterically inclined. It seemed likely that the necessary operative work would take from three to four sittings under the gas, and the sooner it was done the better, for she was waiting to migrate south for the winter. At the first sitting she took the nitrous oxide so well that I decided to re-administer it after a fifteen minutes' interval. After coming round the second time she sat in the chair for a few moments with a good colour, and then gradually became blue, with very shallow respirations. She was quite conscious, and I could detect no change in her pulse. I got her to walk up and down the room and her colour returned, but she looked dazed, and had lost her usual bright manner. After sitting in an arm chair for a short time her breathing again became very shallow, and for the first time she felt faint. The cyanosis returned and gradually became more intense; still there was not the slightest noticeable change in the pulse. After relapsing several times in this way, her husband, himself a medical man, took her home; we thought driving in the fresh air might revive her. On the way home she felt extremely faint and went very blue; he thought the pulse was not so good as it had been, and he stopped at a public house and gave her some brandy. This seemed to pick her up a little, and she got home safely and went to bed. For a couple of days she seemed much upset. On hearing this I decided to give her ether at her own home, and have the rest done together. This I did ten days after. She took it very well, and although there was a tendency to shallow breathing and cyanosis for some hours afterwards, no alarming symptoms occurred. Cyanosis recurring in this way is most unusual, even in phthisical cases, where it is often seen for a short time after the administration of gas is concluded. It was suggested that it might have been a manifestation of hysteria; this is, however, no explanation of the phenomena. The fact that the pulse persistently kept its volume seems to point to absence of real danger, at the same time it must be admitted that if left alone, or sent home without medical attention, such a case might have developed dangerous symptoms.

It is a trite saying that statistics are dry; I have even heard it hinted that figures are fallacious. Be that as it may, there is no doubt that at times they are very interesting. The compilation of this record has been so to me. It is a faithful representation of facts as they have come under my notice during the last three years, and if I have rendered them in any way interesting to you I shall have achieved the object of this short paper.

TABLE TO ILLUSTRATE PAPER.

		Age.	Average Age.
Total number of cases	553		
Females	436	6·59	22·5
Males	117		

NITROUS OXIDE CASES.

		Average Age.	Average Inhalation Period.	Average Anæsthesia.	Average Number of Teeth Extracted.
Total number of cases	411	...	49·4 secs.	41·9 secs.	
Females ...	308	22·7	48·8 ,,	41·3 ,,	3
Males	103	...	50·7 ,,	42·6 ,,	

Children under 13.		Average Age.	Average Inhalation.	Average Anæsthesia.
Total number	25	...	41·7 secs.	33·3 secs.
Females	16	10·6	40·7 ,,	32·6 ,,
Males	9	...	43·3 ,,	34·4 ,,

NITROUS OXIDE WITH AIR CASES.

		Average Age.	Average Inhalation.	Average Anæsthesia.	Average Number of Teeth.
Total number of cases	142	...	50·5 secs.	48·3 secs.	
Females	128	21·6	50·8 ,,	48·4 ,,	3·8
Males	14	...	47·6 ,,	46·6 ,,	

Children under 13.		Average Age.	Average Inhalation.	Average Anæsthesia.
Total number	17	...	43·4 secs.	40·6 secs.
Females	13	10·7	44·7 ,,	39·7 ,,
Males	4	...	38·7 ,,	41·2 ,,

Two Cases of Transplantation.*

By JOHN A. FOTHERGILL, M.R.C.S., L.D.S.Eng., D.D.S.Penn.

In January 1894, A. M., age 22, who is my surgery waiting maid, broke the crown off her right superior lateral incisor tooth, the pulp of which had been dead some time. The root was a poor one and not very suitable for an artificial crown.

On January 9, I was consulted about a boy, aged about 15, whose anterior teeth were very much crowded, and I decided to remove the right superior lateral. It struck me that the tooth would very suitably fill the gap in the maid's mouth. After extraction the lateral was immediately placed in a vessel containing glycerine, and laid aside for a few hours until I had some leisure. I then held it in a napkin and drilled into the pulp cavity from the lingual surface of the crown. Removed the whole of the pulp and filled the pulp cavity with chloro-percha, and the drill hole with amalgam. Gas was administered, the root extracted and the tooth inserted without much difficulty. Next day the tooth was inclined to drop, so a vulcanite plate with a little metal tab passing under the cutting edge of the transplanted tooth was adapted; the plate slightly raised the bite. This was worn for about a month, the tooth still keeping rather loose; I found that the plate was causing irritation, so removed it. In a fortnight's time the tooth was perfectly firm and the gum looked healthy. The patient had little or no pain, and there never was any purulent discharge from the gum or socket. At the present time the tooth is quite firm, has kept a good colour and the surrounding parts are quite healthy.

A small cavity appeared on the labial surface at the gum margin about a year after the transplantation, but a small gold filling put this right.

The maid's left lateral was transplanted by my colleague, Mr. Davison, on August 2, 1895, and the details of the operation were similar to those just described in the case of the right, except that a little hook at the end of the root of the transplanted tooth was ground off with a corundum wheel.

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* Read at the Midland Counties Branch, February, 1896.

The same plate was worn for a few days to raise the bite, but no metal tab was used.

On August 3, the tooth was freely movable and painful when moved. On the 6th, the tooth was still loose, but less painful, and in about a fortnight the tooth was quite firm.

On examining the accompanying model, taken to-day, it will be seen that the left tooth is rather too large, and consequently is not so well placed as the right. Quite recently decay was found on the labial surface of this transplanted tooth, and as it corresponds to decay in a similar position in the tooth first transplanted the primary cause may have been damage to the enamel by the blade of the forceps.

In conclusion, I would remind members that Dr. Younger, in America, practised transplantation and implantation largely a few years ago, and his articles and demonstrations excited a great deal of attention. Similar operations were performed by Mr. Cunningham and others in this country.

As some six or seven years have elapsed since these operations were performed, it would be interesting to know what is the present condition of the transplanted teeth. I have not myself seen any notices in the journals on the subject.

Legal Intelligence.

Action to Recover Fees.

MATLAND *v.* CARROLL.

THIS action was brought by Messrs. G. R. and T. C. Matland, dental surgeons, 95 and 96, London Wall, to recover four guineas for supplying a set of false teeth to the defendant, Mr. D. Carroll, 70, Cable Street. The first defence was that the teeth did not fit, Mr. Ricketts, defendant's counsel, explaining that the condition of payment was that the teeth should be a perfect fit. The plaintiffs took twenty-seven of the defendant's teeth out, and then supplied him with a false set, which had been uncomfortable ever since, and that was a considerable time ago. When the teeth were fitted, the defendant said he would try them, and see how he got on with them before paying for them. The plaintiffs sent for a constable, telling the defendant he should not go until he paid the money. For that false imprisonment—the door having been bolted to prevent him getting out—he now asked for damages.

Police Constable 663K, who was sent for, said the plaintiffs could not charge the defendant, and he then told the plaintiffs that it was a matter for the County Court, and not for police interference.

Mr. SHORTT, for the plaintiffs, denied that the door was fastened, or that there was any reason for suggesting that there was any false imprisonment.

Mr. Commissioner KERR: I can quite see that this man was a perfect nuisance to the dentist; but the dentist sent for the policeman. That amounts to a detention, for which I give the defendant one farthing damages.

Mr. SHORTT: We only sent for the policeman as an umpire.

Mr. Commissioner KERR: What nonsense will be talked next? A police constable as an umpire! Everybody knows that to have false teeth is a troublesome thing. But the defendant has had the teeth for some time, and been using them.

Mr. RICKETTS: Because he had no others.

Mr. Commissioner KERR: Nonsense. The man must pay for the teeth after all this.

Judgment was then entered for the plaintiffs for the amount claimed and costs, and for the defendant for one farthing, but without costs.

Action to Recover Fees.

JOHN *v.* DAVIES.

A CASE which excited considerable interest was heard by Judge Owen at Cardiff County Court on Wednesday, April 22. It was a claim made by Mr. William John, dentist, Cowbridge Road, against Mrs. Davies, tobacconist, King's Road, for 19s. 8d., for professional services rendered. There was a counter claim for £27, damages for injuries alleged to have been sustained by Mrs. Davies in connection with the dental operations. The defendant was represented by Mr. Henry Morgan Rees.

Plaintiff gave evidence as to scaling defendant's teeth.

Defendant, who followed, said that her mouth had been so much injured thereby that she had to leave off business, obtain the services of a substitute, and a woman to nurse her, and, last of all, a medical man (Dr. Treasure) to attend her.

Dr. Treasure said he had examined Mrs. Davies, and found her suffering from an injury to the mouth and to two front teeth. This might have been caused by the use of a dirty instrument, but he could not say whether or not it were due to any particular malpractice on the plaintiff's part. He did not think that the condition of defendant's mouth was consistent with natural causes. He had no personal feeling against Mr. John.

Plaintiff was recalled and examined by Mr. Rees as to whether he had ever been in trouble, to which Mr. John at once replied that his wife had lost her character, and that he had once appeared in the Cardiff Police Court in answer to a charge of knocking a man down who had insulted his wife.

In giving judgment his Honour said that the case was a very unpleasant one. He strongly deprecated the custom of making charges against any professional man unless they could be supported by the clearest and most conclusive evidence. He was of opinion that when charges such as had been brought against the plaintiff that day were made and supported by such flimsy evidence it was highly improper and cruel. Beyond that the case had been conducted by Mr. Rees in a way which did not commend itself to him (the judge). The plaintiff had been asked if he had appeared in the police court and the poor man had, moreover, to publish in open court the fact that his wife was a woman of no character. There had been nothing dishonourable, under the circumstances, in plaintiff's appearance at the police court to answer a charge of knocking a man down. He was sorry that a medical man had gone into the witness box and with a good deal of feeling—he would not use a stronger word—given evidence against the plaintiff. If there had been any case of malpractice suspected, why could not a qualified dentist be called to speak to it? He would not believe the evidence for the defence. He then awarded judgment for the plaintiff for the amount claimed, also in his favour with respect to the counter claim, remarking that this latter claim was cruel and should not have been brought.

The judge's remarks were received with applause in court.—*Western Mail.*

Extraction as a Form of Punishment.

At Preston, on April 21, Herbert Barry, 14, a monitor at St. Mary's Boys' School, Preston, was summoned in four cases for assaulting James Scanlan, Alexander Cardwell, and John Billington, three of his scholars. Mr. P. H. Edelston prosecuted on behalf of the N.S.P.C.C., and Mr. Blackhurst defended.

Mr. Edelstone stated that on March 16 Barry took Scanlan—who was only seven years of age—behind a screen in the schoolroom to punish him. He asked him whether he would be caned or have his teeth pulled. Scanlan said he would have his teeth pulled, and Barry, taking a pair of pincers from his pocket, opened the little fellow's mouth and extracted two of his top teeth. Scanlan made no complaint to his parents, and on the Wednesday following Barry extracted two of his bottom teeth. The lad still made no complaint, but his brother, who attended the same school, appeared to have seen what took place and informed his parents, with the result that information was laid against Barry.

Scanlan's father spoke to seeing Barry and taxing him with the offence. Defendant replied, " I only did it twice."

For the defence Mr. Blackhurst submitted that the boy Scanlan asked him to pull the teeth out as they were aching. It could hardly be called an assault, as there must have been a certain amount of assent on the part of the boys. He submitted that it was a piece of fun and nonsense among the boys, and he asked them not to send defendant to gaol, but to inflict as light a punishment as possible.

The Mayor (Mr. P. S. Parks) said they had found defendant guilty of a very serious offence, and it was only his youth which saved him from being sent to prison If he had been eighteen the Bench would undoubtedly have sent him to gaol. They further regretted that they could not order him such corporal punishment as he deserved, but his father had undertaken he should receive it elsewhere. Defendant would be fined £3 and costs, or one calendar month. The Bench consented to the other cases being withdrawn on payment of costs.—*Leeds Mercury.*

Reports of Societies and other Meetings.

Odontological Society of Great Britain.

THE monthly meeting was held on April 13th. Mr. D. HEPBURN, L.D.S.Eng., President, in the Chair.

The minutes of the previous meeting were read and confirmed.

The following gentleman, having signed the required obligation form, was admitted a member of the Society:—Mr. Harold Dewe Matthews, Grove Field Villa, Cheltenham.

The following gentleman, having signed the obligation book, was admitted to membership of the Society by the President:—Mr. E. L. Dudley.

The following gentleman was proposed as a non-resident member of the Society:—Mr. Charles Sidney Prideaux, L.D.S.Eng.

The following gentlemen were elected non-resident members of the Society:—Mr. George Henry Bowden, L.D.S.Eng. and Glasg., Roseneath, Reigate, Surrey; Mr. T. Ruberry Chambers, L.D.S.Eng., New Inn Hall Street, Oxford.

Mr. STORER BENNETT said that two specimens of old bone work had been presented by Mr. Forsyth, who had also presented an ancient instrument for the extraction of teeth. Mr. Whatford, of Eastbourne, had sent a model showing an interesting irregularity in the front of the mouth.

Mr. CLARK presented a photograph taken of the second lower molar by means of the new "x" rays, showing the root, &c. It was taken by putting the plate in the mouth carefully covered with black paper and rubber dam to protect it from ordinary light and moisture. The bulb was held close against the teeth and the exposure was four minutes.

Mr. MARMADUKE SHEILD then read a communication on "A Case of Aneurism by Anastomosis involving the Vessels of the Hard Palate." The patient was a retired officer, aged 57, and had suffered from "liver affections" but never from malaria. In 1893 he had an accidental fall "and broke his nose," and repeatedly has suffered from severe epistaxis, referred to the congested condition of his liver. On January 15 bleeding occurred into the mouth, and he lost about half a pint of bright blood. On January 16 the bleeding occurred again, and he lost two tablespoonfuls. On the 17th the bleeding again occurred to a considerable amount, and he noticed that the blood issued forth in jets into the mouth. On the 18th the same occurred. Dr. Norton saw him on the 16th, and noticed an ulcer the size of a threepenny piece on the left side of the hard palate, about opposite the second molar tooth and close to the alveolus. Arterial blood was spurting in a jet from the centre of this, and the patient was losing a quantity of blood, his mouth being filled with clot. Dr. Norton temporarily arrested the bleeding by pressure and perchloride of iron, but it always recurred.

When seen by Mr. Sheild on January 18 there was a pulsatile swelling the size of a filbert occupying the tissues at the base of the alveolar process. Its margins were not defined, but faded away imperceptibly. The pulsations were strong, so as to lift the examining finger, and felt exactly like those of an aneurism. There was one large pulsating vessel posteriorly which could be compressed, but without altering the pulsation of the tumour. The teeth were quite sound, and the morbid swelling, whatever its nature, terminated abruptly at the base of the gums. The ulcer was quite superficial, and devoid of any induration or distinct margins; it looked like an accidental abrasion from hot food or a piece of bone. The patient was quite unable to give an exact account of the length of time the swelling had existed, and it seemed to me he had hardly much noticed its presence. There was nothing to be seen on inspection of the nares, and there was no bulging of the palate generally to indicate a protruding antral tumour.

Seeing the inevitable uncertainty of an exact diagnosis, the great hazard of cutting into or cauterising the growth, and the desirability of definitely stopping the bleeding by some proceeding which would be sure and certain, a portion of the upper jaw was removed, comprising the whole alveolar margin from the second incisor tooth, and the hard palate as far as the middle line. The posterior palatine artery spirted persistently, and was only restrained by plugging the canal with a spicule of wood.

The highly vascular nature of the tumour was apparent after removal of the portion of bone, for it subsided and contracted, so that what was once a prominent pulsating mass was now only a thickened flattened area of sponge-like tissue with a small superficial ulcer in the centre. Dr. Rolleston, who examined the tissue microscopically, remarks :—

"A section taken through the growth and ulcer down to the bone, showed that underlying the granulation tissue, which was somewhat scanty, there were numerous blood vessels. The arteries were well formed and numerous ; one or two showed slight endarteritis obliterans ; there were a few large spaces lined with endothelium, and with but thin wall, probably dilated veins. All the blood channels seen, therefore, had proper walls, and there was no extravasation of blood into the tissues and no pigmentation to suggest that any past extravasation had occurred. There was nothing to suggest sarcoma or epithelioma. From the small amount of organising granulation tissue, and from the absence of signs indicating irritation of the adjacent mucosa, it appears probable that the ulcer is of very recent date."

Mr. W. B. PATERSON described a case of angioma situated on the outer side of the alveolus above the incisors. It was of small size and he cut into it, being prepared to check any bleeding with the actual cautery. It bled furiously but was ultimately checked. The only result of the case was necrosis of a portion of the outer plate. With regard to Mr. Sheild's case, he thought that plugging the posterior palatine canal might have been tried, providing one could have made certain of the innocent nature of the growth.

Mr. STORER BENNETT said in December, 1888, Mr. W. E. Harding presented to the Society an upper incisor extracted from the mouth of a girl aged 17, who some ten months previously had fallen down, striking the tooth and driving it high up into its socket. It became impacted, and causing increasing pain was extracted. It was then found that the tooth had been fractured across the crown in a direction obliquely upwards and backwards. He (Mr. Bennett) was asked to make a microscopic examination of the specimen, and it was found that the broken halves were firmly knit together by some calcified material occupying the central portion of the gap. On taking a section it was found that in the middle half, between the fragments, there was a calcified mass of material of a spongy or cavernous character largely made up of blood vessels. There were also in these cavernous spaces masses of some material somewhat resembling pulp. After illustrating the subject by a series of micro-photographs shown on the screen, Mr. Bennett said two different sources were suggested for this new material, either pulp or periosteum. It was possible that an over-growth of pulp filled up the spaces between the two fragments and ultimately calcified. On the other hand there was evidence of cementum ; lacunæ and canaliculi being present in certain parts in rather large numbers. He thought this was a case in which, hæmorrhage having taken place, a natural capping of the exposed pulp occurred somewhat similar to a wound under a scab, and the blood which was naturally extravasated between the fragments became replaced by calcified tissue. The case was, so far as he knew, unique.

Mr. C. S. TOMES then read a communication on "A Case of Calcification of a widely Exposed Pulp." He said: The specimen to which I would call your attention is one so remarkable and also so instructive from several points of view, that it will fully repay somewhat close examination.

The tooth is one of those which, having been broken right across its pulp cavity, has, nevertheless, succeeded in repairing the damage and sealing it up again—an event of such rarity that I only know of one other recorded case, namely, that to be found figured in my father's "Dental Surgery" (third edition, p. 341).

The patient was brought to me on account of very severe but intermittent pain of a neuralgic type, recurring most days, but not every day. I found a tiny opening in the gum, which was otherwise of healthy appearance. A probe introduced disclosed the presence of what felt like a complete but rather rough-surfaced tooth. The history was that three years previously an attempt had been made to extract a tooth in this situation, but that it had been broken off. It was exquisitely tender, and occasionally very painful for a long time afterwards, but it gradually got better and healed over, but it never remained absolutely comfortable for long together, although the severe paroxysmal pain which brought her to me was only of a few weeks' standing. With the aid of cocaine I reflected the gum from over it, and subsequently had no difficulty in removing it with an elevator. I then found that it had been transversely fractured a little way above its neck, and that what should have been an open pulp cavity was occupied by a cauliflower-shaped mass of shining polished ivory projecting up above the original surface of fracture and overflowing on to it. By cutting it carefully with a hair saw I was able to get four good longitudinal sections, and found that the pulp was not wholly calcified, but that a residue of the pulp chamber was still occupied by living pulp. On examining it with a low power the large mass of secondary dentine was found, not only to project a good way above the general level of the fractured surface, but also to have, so to speak, overflowed it all round the orifice of the pulp cavity, and to be everywhere closely adherent—indeed, continuous with the old dentine. Roughly speaking its structure may be thus described: its free or upper surface presented distinct lamination parallel with the surface, next came irregular lacunal spaces, then sparse dentinal tubes, and finally, in its deepest portion—which was inside the original pulp cavity—abundant dentinal tubes, which were in places continuous, though oftentimes joining by an abrupt bend with the dentinal tubes of the original dentine. The overflow on to the fractured upper surface of the original tooth in places was slight, in other places it extended in a gradually thinning layer out to the very edge of the tooth ; but what was especially noteworthy was that there were included in the new calcified growth quite a number of entirely detached and displaced splinters of the old dentine.

Mr. TOMES then gave a very detailed description of the various sections, illustrating his remarks with lantern slides.

Mr. TOMES then read a paper entitled "Further Notes on Amalgams," a full report of which will be published in a future issue.

Mr. F. J. BENNETT referred to investigations recently made by Professor Roberts Austen with reference to alloys in which it was found that taking a cylinder of lead about three inches long and attaching to its end a small cylinder of gold of similar diameter, and keeping the two at a temperature far below that of the melting point of lead, in fact, very slightly raising the temperature, after three days the astonishing result was found that particles of gold had found their way right up to the top of the lead cylinder in considerable quantity. Possibly some of Mr. Tomes' results might be helped on by discovering that things which had been considered peculiar to amalgams were the common property of alloys also.

Mr. H. BALDWIN said this migration of metals such as lead and gold at ordinary temperatures, would seem to make it almost certain that Mr. Amos Kirby's explanation of the alteration in shape that amalgams undergo is correct. Mr. Kirby attributed it to a warpage due to a re-arrangement of the mercury throughout the mass.

Mr. G. CUNNINGHAM said Mr. Kirby had in his collection a large number of experimental blocks of amalgam, and he had been able to prevent their contraction and make them bend according to the distribution of the mercury in the mass. The series of experiments was very interesting, and it was a pity that Professor Black in writing on the subject was unaware of them. With regard to the effect of heat on amalgams, he had thought that copper amalgam might set more quickly if it was mixed with about 5 per cent. of precipitated silver. He found, however, that the surface of such an amalgam filling became rough, so that no advantage was gained by the admixture.

Mr. REINHARDT said Professor Black ascribed the crevices in amalgam to the flow of amalgam. He asked whether there was any crevice in the amalgam in which Mr. Tomes put his wire. The old way of using amalgam was to use it dry in a sort of powder, and pack it with hot instruments.

Mr. C. S. TOMES, in reply, said Mr. Cunningham had pointed out that Dr. Black had not quoted Mr. Kirby's researches. Dr. Black did not quote anyone's researches as a general rule. The question of the flow of amalgam was an interesting one, but it had nothing to do with what happened in the mouth. As far as he knew, it was a process which took place only under prolonged and considerable pressure, and he doubted whether the same results could be obtained from the intermittent influences happening in the mouth. No doubt the old method of packing dry amalgam with hot instruments was very good as far as it went; it gave a fairly rapid setting almost under the hand, and that was what they should aim at. The experiments of Professor Roberts Austen, which Mr. Bennett alluded to, were no doubt exceedingly interesting, but they had not yet been published in a form in which much could be made of them. They pointed of course to Mr. Kirby's idea, that if amalgam was irregular in its composition, containing more mercury in one portion than in another, it would be extremely likely to re-arrange itself.

The thanks of the Society having been accorded to Mr. Sheild, Mr. Storer Bennett, and Mr. Tomes for their communications, the Society adjourned.

THE ordinary monthly meeting of the Odontological Society was held at the Society's Rooms, on May 4, the President, Mr. DAVID HEPBURN, occupying the chair.

The minutes of the previous meeting were read and confirmed.

Messrs. Northcroft and Bateman were appointed auditors for the ensuing year.

The following nomination is before the Council:—Lucian Edward Browne, L.D.S.I., March House, Tottenham, Middlesex.

The following gentleman was proposed as a resident member of the Society:—Robert Stephen Fairbank, M.R.C.S.Eng., L.S.A.Lond., 18, George Street, Hanover Square, W.

The following gentlemen having signed the necessary obligation forms, were admitted members of the Society:—Thomas Rubery Chambers, 29, New Inn Hall Street, Oxford; George Henry Bowden, Roseneath, Reigate.

The LIBRARIAN reported that he had received the ordinary exchanges and the usual journals and transactions.

Mr. GEORGE BRUNTON read a note on "Some Experiments in colouring Porcelain for Teeth and Gum Bodies or Enamels." The porcelain which he had used was a low fusing one, the melting point being 1045° C. It was very like glass, and might more correctly be called an enamel. The metals which produced very little colour in the porcelain when used alone, seem to answer best the purpose of producing the delicate gradations of shade in pink gum. He had tried to produce a more natural gum by mixing a high fusing gum body with the low fusing plain uncoloured body, and producing the desired shade with metallic chlorides. The result, however, was that the fusing point was raised, and that was a drawback in using the mixture on a low fusing body. The high fusing gum which gave the best results was John Allan's body, using equal parts of the high and low fusing bodies. Mr. Brunton exhibited specimens of the results he had obtained, and stated that the work was only in the experimental stage.

Mr. OSWALD FERGUS presented to the Society a framed photograph of "Long Calderwood," famous as the birthplace of William Hunter and John Hunter. He asked the Society to accept the picture, because John Hunter's first published work was his article on "The Natural History of the Human Teeth."

Mr. COLYER then opened a discussion upon the early treatment of crowded mouths. He first referred to the advantages to be gained from early treatment, arguing that if, directly a crowded mouth in the future seemed inevitable, treatment were adopted, the case when all the teeth were erupted would resolve itself into one of a misplaced canine or bicuspid—a comparatively easy condition to remedy—while if the case were left untreated, the irregular position of the teeth becoming more fixed, and more teeth becoming involved, the crowding would become more difficult to remedy. Following on this point Mr. Colyer dwelt upon the various advantages and disadvantages of extraction and expansion in the treatment of crowded mouths. In discussing the treatment of individual examples he divided them into two classes—(1) cases where the first permanent molar is unsavable; (2) cases where the first permanent molar is savable. In the first group he stated that he found the most satisfactory results follow a line of treatment as follows: the temporary canines are removed directly crowding seems inevitable. This operation allows the incisors to come into a regular line at the expense of the space left by the removal of the temporary canine. The bicuspids in the normal way then erupt, leaving the mouth fairly regular with the exception of a small space between the lateral incisor and the first bicuspid, so that the canine erupts external to the arch. The first permanent molars are then removed directly the second permanent are sufficiently through to permit being held in place by a plate. The bicuspids (space having been made) move back generally without further mechanical treatment, and the canine falls into place. In the second group the extraction of the unerupted first bicuspid was recommended, Mr. Colyer showing on the screen photographs of twelve cases in which this treatment had been carried out, with, in the large majority of cases, excellent results. In concluding his remarks he suggested the following points for discussion:—

(1) Is it advisable to treat a crowded mouth directly such a condition in the future seems inevitable?

(2) What are the comparative merits of extraction and expansion?

(3) In cases when the first permanent molars are savable, is

extraction of the unerupted bicuspid a good form of treatment in the majority of cases?

(4) In cases where the first permanent molar is unsavable, what is the best course of treatment?

(5) At what age should the first permanent molar be removed in crowded mouths?

Mr. R. H. WOODHOUSE said the longer he practised, the more unwilling he was to interfere with mouths at a very early stage. Nature had such an immense power in correcting irregularities that he was willing to give her every chance. It could not be really foreseen what teeth might become decayed in the course of three or four years; it must be, at the best, only conjecture. Mouths could now be treated with much better prospects of success than formerly by free divisions between the molars. By nursing a mouth up to 14, they would be able to see what the future of the mouth was likely to be. With regard to the author's second question, he thought if any treatment had to be adopted extraction was generally the best. It was speedy, it saved the patient an immense deal of trouble, and it enabled them to meet a large number of cases that could not be met in any other way. As to the third question, he had never yet adopted that treatment. He thought it was beginning too early for one thing, and although it might be done in hospital practice, he would be shy of doing it in private practice. It seemed to him a little cruel to take out a temporary molar and thus sacrifice a good deal of the masticating surface, and to take out a bicuspid and inflict a bad wound. He thought the temporary teeth were very important to save for masticating purposes, and the very centre of masticating strength was lost by removing the temporary molars in the way suggested. With regard to the fourth question, if a mouth of 14 needed thinning, he would take out the six-year molars; but in many cases he had deferred taking out the teeth till a later date. He felt it was best to defer operations for irregularity till as late as possible; from 14 to 15 was quite early enough to take out teeth for the ordinary forms of irregularity.

Mr. H. BALDWIN said the profession had not really made up its mind as to whether it was better to extract unerupted bicuspids or not; and it had not made up its mind, in cases where the six-year molars had to be extracted, whether it was better to extract them before the eruption of the 12-year-old molars or after. With regard to the author's second question, he thought that depended very largely on the condition of the lower arch. If the case was one of general crowding of upper and lower, it would certainly seem better to extract, but if the lower teeth were fairly regular and the upper teeth crowded, and at the same time the upper jaw distinctly contracted showing the outer cuspids, that would seem to him a typical case for expansion of the upper jaw. With regard to question five, he thought it was better to wait until the second molars were erupted, because then the full benefit of the extraction was obtained. As to whether it was better to extract a savable six-year-old molar or a bicuspid, it seemed to him that there were nearly a dozen reasons why the bicuspids should be chosen instead of the molars.

Mr. SIDNEY SPOKES said he was in favour of extraction as against expansion. With regard to the third question, he would suggest to Mr. Colyer that if he wanted more room in some of his cases he should extract the temporary molar and leave the first bicuspid alone. In some of Mr. Colyer's cases there was an approach to a "V"-shaped arch. Was this the result of his treatment? One of the strongest arguments that Mr. Colyer had brought forward was with regard to the crowded condition of the teeth producing caries. That was one of the predisposing causes of caries, but he thought it was rather unusual to find any large amount of caries before the age of 12, when the second permanent molar was coming up. The author had said that the case might be treated as soon as the second permanent molars appeared through the gum, but he would be disposed to wait a little longer, and let the cusps interlock thoroughly.

Mr. GEORGE CUNNINGHAM said he had never had an opportunity of removing the bicuspid, and in all his experience of cases of irregularity he had never yet had to extract a lateral tooth, and he could not really understand how the author ever countenanced marring one of the main objects he evidently had in view, because he regarded the æsthetic function as being extremely important. As to the form of treatment in the majority of cases, extraction or expansion, he supposed that by expansion the author meant a large regulating plate that covered the teeth. He thought there was a great deal in the newer methods where, by means of banding, caps and springs, they could get rid of some of the objectionable features of the older methods. There was no doubt that the plate led to disastrous results. With regard to question three, it was evident that they must have some kind of treatment, and any treatment which did not tend to keep the principle of the major factor of mastication in the first permanent molar was not worthy of consideration. Therefore he rather endorsed what the author had said in his paper. Question four was a question which nobody had settled. With regard to the fifth question, notwithstanding the many authorities who had never repented taking out six-year-old molars, he had repented several, and was convinced that he could have done it better by other methods.

Mr. ROBBINS said he was rather surprised that Mr. Cunningham had never seen a case in which he was justified in removing a lateral tooth. He had one case in which the lateral had permanently locked inside the lower bite before he saw it, and the compression had been very great. The removal of the lateral gave a very good result indeed; the central and the canine came together without any apparatus; and by just tipping off the canine teeth, he did not think the casual observer would notice it much in the mouth. On the whole he would like to strike the mid-way distance between Mr. Colyer and Mr. Woodhouse, and agreed with Mr. Woodhouse entirely as to the necessity of waiting until most of the teeth were well in. He should make the age 13 instead of 15.

Mr. HUMBY asked Mr. Colyer on what ground he supposed the apex of the root of the teeth was the centre of the circle from which the crown moved? He had come to a different conclusion. One condition which he found had never been touched upon in any of the works on the articulation of teeth was the effect of a thick muscular contractile lip upon a crowded condition of the mouth. He did not see that by any apparatus that could be regulated. There was another thing which would bring about crowded conditions, viz., tonsillitis. He thought those two conditions were only the beginning of a long list that might be made up in connection with things they should consider with regard to crowded mouths. Even the size of the tongue should be considered.

Mr. D. PEDLEY said that with regard to the treatment Mr. Colyer proposed, of removing the first bicuspid with the temporary molar, it seemed to him if any use was to be found for the operation it could be found in those extremely difficult cases of anterior protrusion. Anterior protrusions were the most difficult cases they had to deal with, and in those cases he might ask Mr. Colyer whether it was not advisable, in addition to removing the first bicuspid with a temporary molar, to raise the bite somewhat?

Mr. STORER BENNETT directed the attention of the members to a skull which was in the museum from which the outer alveolar plate had been removed on both sides. It was a very unusual specimen, because it was one in which, at some considerable anterior period to the time the owner died, the second temporary molar had been removed on one side of the mouth but had not been so removed on the other. On the one side where the second temporary molar had been extracted, the first molar had travelled far forwards, had pressed on the unerupted bicuspids and had driven them forward, and they had driven forward the canines, so that the canines on that side of the mouth were considerably over the situation of the lateral, and pressing on the root of the lateral. With regard to the removal of six year old molars he agreed with Mr. Woodhouse. He thought one was apt to forget that by taking the six year old molar before the twelve year old molar was in position, all the bite came on the front of the mouth. That was a very important factor in producing superior protrusion. He thought most distinctly they ought never to take out the six year molars for the purpose of regulation, until the twelve year old molars were so far erupted that they were in contact when the mouth was shut.

Mr. Storey thought that until they had the Rontgen rays on the matter they would be unable to settle the question, which necessarily in its treatment dealt with separate and individual cases. With regard to the general course of treatment he had for a long time past been taking out the six year old molars when necessary at, roughly speaking, the age of 12, just before the occlusion of the twelve year old molars, and he had found in that way and by watching them and sometimes grinding down the cuspids, that he had got pretty good results in regard to regulation.

Mr. J. F. Colyer, in replying, said that as far as the form of treatment went he was perfectly open minded on the question. With regard to irregularities of the teeth, of course they were quite in the infancy of knowing anything about the subject. They did not understand sufficiently what he might term the anatomy of irregularities. What he found with irregularities was that, given a crowded mouth, given the incisors crowding, it was invariably due to the pressure of the canine. The whole gist of the treatment seemed to be to find room for the canine. One speaker had referred to the question of taking out a first temporary molar to get that room. If they would look at a skull they would find that by taking out the first temporary molar they did not give the permanent canine any room at all. The only way to make room for it was by taking out the first bicuspid. Mr. Woodhouse had said that he would not treat a crowded mouth at an early stage; he (Mr. Colyer) would. The older the patient the more fixed became those irregularities of the teeth, and the less chance of getting them right. With regard to division between the molars, he endeavoured to avoid anything like a space between the molars, and every day he found the necessity of trying to contour, especially in the molar region. With regard to the wound caused by the operation, that was not so bad as might be thought. He disagreed with Mr. Woodhouse with regard to what he said about the value of the first temporary molar as the centre of mastication. He (Mr. Colyer) regarded the first permanent molar as the centre of mastication; it was in the very part of the jaw where the muscles played with the greatest power. It seemed to him that the whole question of whether an arch should be expanded or not depended simply on the direction of the teeth. If in the cusps the teeth were sloping slightly inwards it was a case for expansion; if outwards it was not such a case. In reply to Mr. Humby, he would say he had never seen a tooth moved by mechanical means where the tooth moved bodily. He thought lip action on the teeth was well known, but he did not think tonsillitis had anything whatever to do with causing irregularities. He quite agreed with Mr. Storey in thinking that the x rays might be brought into operation. He thought the operation he had brought before them held out a very fair prospect of getting the treatment of irregularities simplified.

A vote of thanks having been accorded to Mr. Colyer, the meeting adjourned.

Abstracts.

The Bacteriological Aspect of Dental Caries.

By KENNETH W. GOADBY.

A FEW years ago Bacteriology was an unknown science ; to-day it holds a foremost place in treatment and diagnosis, daily adding new tactics to the fierce battle waged with disease, whilst all along the line fresh victories are being won.

With the advent of this new science came new ideas of contagion and infection, fresh precautions in surgery, fresh treatment in medicine ; whilst in our own profession a new light was thrown on the causation of dental caries. The pre-bacterial theories of this process we may dismiss within short space, mentioning by the way, the theory advanced by that astute investigator, John Hunter, who expressed himself convinced that a vital condition of the teeth existed which was in all cases lowered before caries could result. How far this may be true is not even now entirely clear, and in discussing the complicated structure of the tooth as a living part of a living organism, I shall suggest some points. Still, I do not say that a vital reaction to caries can be made out, but that we cannot with accuracy say positively that such a reaction is impossible, but, rather, is probable. Abbot's inflammatory theory is revived with some slight modifications by Bödecker in his recent work, and by some described as entirely imaginative and American ; but we must not lose sight of the fact that in all the fields of knowledge no path requires more imagination, tempered, certainly, by previous results, than that of science, histology being no exception.

Bridgeman's electric theory only finds its equal in Edison's streams of electrified water.

Coming now to the bacteriological aspect, Underwood and Mills attempted an explanation, but their experiments failed owing to overlooking certain important facts ; whilst Leber and Rottenstein described the organism Leptothryx, which they thought the specific cause of caries. Both these foreshadowed the true theory of caries ; though it was reserved for Miller to amplify and bring to its present stage our knowledge of the subject.

Before commencing the discussion of the destruction of the teeth we may for a short time consider the destroying agencies themselves beginning with the lowest order, Bacteria. Bacteria are divided morphologically into several classes :—

(1) *Cocci.*—Small round or oval dot-like bodies, sometimes in pairs, *diplococci;* at other times in little masses, *staphylococci;* in chain-like forms, *streptococci;* or masses of four, *sarcinæ.* Cocci are non-motile.

(2) *Bacilli.*—Organisms of rod-like shape, whose length is at least twice their diameter and whose sides are approximately parallel. They are often furnished with minute threads or flagella varying in number, whilst they may form threads, as anthrax, etc., and sometimes simulate streptococci, being, in fact, indistinguishable. The rods may be straight or curved, whilst the protoplasm often stains in patches, giving the appearance of vacuoles. They are often motile, a circumstance due to their flagella.

(3) *Spirilla.*—Forms not unlike a corkscrew with a flagellum at either end and very motile ; *spirochæta*—elongated forms of spirilla. These are all *non-pleomorphous* forms, and constitute the class Bacteria, the lowest of the vegetable kingdom.

The next series are the *Blastomycetes*, of which *yeast* is typical. Finally, come *Hypomycetes*, or moulds, to which class belong *Leptothryx* and *Clanothryx*, making up the list of *pleomorphous* forms, all of which, with the exception of clanothryx (Miller,) are represented in the mouth, whilst upon occasion many of them may be pathogenic ; the largest proportion of the mouth bacteria are, however, non-pathogenic. Any of these forms may also be aërobic—that is, requiring the presence of oxygen—or anaërobic, capable of living in an atmosphere destitute of oxygen, say hydrogen or carbonic acid.

Sometimes an organism is spoken of as being anaërobic, facultative aërobic, meaning it prefers to live without air or oxygen, but can do so if required.

We have also saprophytic organisms, or those that live in a solution of nutrient medium, as if any of you took your dinner, or what not, by a bath in soup.

Finally there are the parasitic bacteria, which require a living host.

The conditions under which any of these organisms thrive are (1) *A sufficient supply of moisture.* (2) *A certain optimum temperature*, varying often for certain bacteria within extremely narrow limits. (3) *An alkaline or neutral medium*, for although acidity does not always destroy, it generally retards their growth. (4) *The atmosphere*, as we have already seen. (5) *A nutrient medium*, differing with the organism. (6) *The absence of light*, many bacteria being destroyed by prolonged insolation.

And now as to the life-history of these low forms of life.

Their chief object, in common with all forms of organised or living things, is to reproduce their kind, bacteria being reduced to the most essentially simple process, and may occur by *Fission* or *Spore-formation.* Fission consists in the gradual contraction of the protoplasm, of which they are made up, generally at the centre, the cell wall also sharing in the process till the two halves separate as independent individuals.

The protoplasm may become drawn out into a thread as the two separate, and breaking in the middle, the two halves move away by the lashing motion of the whisp or flagellum thus formed. Such forms are described as motile, and are peculiar to bacilli, cocci being non-motile. But instead of this process of "binary fission," a highly refractile dot may be formed in the cell and ultimately extended.

If we watch this spore carefully under favourable conditions, it may be seen to burst or grow out at each end into an adult.

So much for the general life-history; and now let us turn our attention to the mouth, and see how it fulfils the conditions of bacterial growth.

The mucous membrane is constantly kept moist by the saliva, normally an alkaline fluid.

Here are two essential conditions, besides a constant temperature of 37°C., so that we have nothing less than an incubator, generally dark. Still, it would be interesting to determine if persons who constantly have their mouths open are deficient in bacteria. Then we have a constant supply of nutrient material in the form of food and cast epithelial scales, so that the conditions are almost as favourable as it is possible to have them, and we find, as we should expect to find, a vast number of organisms of many varieties in the mouth ; in fact, if a platinum wire be rubbed along the gum margin and a coverglass preparation made, large masses of bacteria are invariably found, though, of course, differing in species and quantity under certain conditions.

As a rule we generally find leptothryx of some variety, as long filamentous threads, some extremely thick, and easily seen under the low powers of the microscope, others thinner and more delicate, not, as a rule, bearing so pronounced a segmentation as the larger varieties ; chains of streptococci are also often present, whilst rod-shaped and curved bacilli, single and diplococci, spirilla, and many others are also present.

It is clearly impossible to attempt even a short description of the various varieties which may be found, so a rough division must be made to bring the subject within anything like reasonable limits. Pathogenic bacteria we may at once exclude, as of no special importance in dental caries ; whilst accidental forms, depending on conditions of food and environment, may also be omitted, considering only types of those classes which may have a pathological relation to teeth.

Miller, of Berlin, gives a list of the bacteria found to be constantly present. They are—

Leptothryx buccalis maxima ; leptothryx inominata ; bacillus buccalic maxima ; spirillum sputiginium ; spirochæta dentium ; judococcus vaginata.

The two first varieties have been previously touched upon. Leptothryx buccalis maxima is seemingly most inclined to form segments not unlike the anthrax bacillus.

Spirillum sputiginium is a delicate spirillum, very motile, and most minute, whilst spirochæta is about the same thickness, but longer.

None of these have been cultivated, so that beyond their morphology we can say little, whilst even spore formation is as yet quite undecided.

Bacillus buccalis maxima is uncommonly like a segment of leptothryx maxima.

All stain with carbolic methyline blue and carbolic fuchsin, but do not give satisfactory results with gentian violet, whilst all specimens I have tried as yet decolorise with Gram's method. Of the products of these bacteria it is difficult to make any definite statement, since many have not been cultivated. Leptothryx, in common with others, produces lactic acid, the process being a fermentative one, and consists of the breaking down of the carbohydrate molecule into two of lactic acid. Thus—$C_6 H_{12} O_6 = 2 (C_3 H_6 O_3)$, an analogous process to the formation of acetic acid or the production of alcohol by yeast. At one time it was thought that acetic acid could be produced by the *mycoderma aceti*, or so-called "vinegar plant," alone, but it is now well known that this is a common product in the process of decomposition, to which reference will be made later. As regards obtaining bacteria from the mouth or teeth, a few words will suffice. A platinum wire is sterilised by heating to redness, introduced into the mouth, a small amount of the substance removed from a chosen site, brought away and planted in a suitable medium—broth or broth-gelatin-peptone, &c. —and the tube incubated. The resultant growth is, of course, very impure, so that the following method is adopted to separate the various bacteria :—Another tube of medium is inoculated with two drops of the impure cultivation, and a third tube inoculated with five drops of the second, the medium being then rapidly poured into a "plate," allowed to set, and ultimately incubated. The various bacteria grow upon the medium, forming separate colonies, which are easily distinguishable, and from which pure cultivations may be made. This method is called plate cultivation, whilst the procedure of inoculation I will demonstrate. The mode of growth upon various media serves to distinguish the bacteria, some producing pigment, some liquifying the gelatin, forming a pellicle or precipitate growing better on one medium than on another, so that we have a series of effects by which we distinguish between the various bacteria. Now, although many forms have as yet not been cultivated, there has been no lack of ideas as to their action, whilst some of the speculations are extremely entertaining; for instance, a worthy physician of Darmstadt, who first noticed the presence of "animalculæ" in the mouth, after announcing the fact, goes on to say, in a naïve way, quite delightful:—"This (organism), which, for the sake of brevity, I have named Destructio-dentis-vegetiva, destroys dental substances, as merlius lacrymis softens the wood of houses and furniture." And Weil states that he is convinced that leptothryx bores its way through the enamel. Whilst Professor Eral, thinking he had found the true manifestation of the trouble "in those white patches" existing on the surface of enamel, and that they were the worm holes or burrows, so to speak, of the dread "animalculæ" boring their way in, that he invented a method for their extermination peculiarly his own.

To quote his own words, he "treated the markings with creosote till the caries-matter was impregnated, and then with fuming nitric acid produced a violent decomposition of the creosote (!), with the parasites as well"—to say nothing of the enamel. I am inclined to think he regarded the caries-matter as a species of worm-cast.

Having considered the bacteriological condition of the mouth, we must discuss the structure of the tooth before we are in a position to build a complete theory of caries.

The inorganic matrix forms soluble compounds with most acids, and although so much has been said about the decalcification of the tooth as a mere chemical process, the lime salt does not constitute the whole mass, and we must see how far the organic portion is capable of assisting in the destruction of the tooth as a whole.

Hoppe-Seyler, experimenting on the dentine of the pig, extracted a substance that set on cooling, and behaved in other ways like gelatin.

In order to satisfy myself that we could obtain gelatin from human teeth, I repeated Hoppe-Seyler's experiments in the following manner:—

Having obtained a sufficient quantity to work upon, the teeth were placed in a vessel containing a large bulk of 2 per cent. HCl, for six weeks, the acid being changed frequently, the process accelerated by placing the jar in a digester at 37° C. At the end of the time most of the proteid substance was dissolved off. The teeth were then carefully sorted, and all adherent substance scraped off, being then again macerated for four weeks in 2 per cent. HCl, with many changes, and at the same temperature (37°). They were then washed well in water, soaked in dilute KOH (1 per cent.) for twelve hours, and finally washed again, first with ordinary, then with distilled water. The teeth were soft and elastic, but white and opaque. They were next placed in a flask with just enough water to cover them, and boiled in a water bath, the solution turning brownish as the mass dissolved, the teeth becoming quite transparent before finally disappearing.

The resulting solution gave the following reactions:—

(1) Thick precipitate with tannic acid.

(2) Thick precipitate on saturation with mercuric chloride.

(3) Red colour with Millon's reagent.

(4) Biuret reaction, whilst—

(5) The solution set to a solid mass on cooling. Gelatin is then certainly present.

The proteid reactions were evidently due to some other body present, and it was thought probably the sheaths of the detinal tubes. Accordingly I decalcified a fresh series of teeth in the preceding manner, but the solution of gelatin was further treated by placing it in the autoclave to peptonise the gelatin, and then filtered. The residuum was washed well with dilute acid and distilled water, then washed off and centrifugalised for twenty minutes, the process being three times repeated. The resultant precipitate consisted of short rods, evidently the broken-up tubules, and gave the following reactions :—

(1) Swelled up in caustic potash.

(2) Dissolved with difficulty on boiling.

(3) Xanthoproteic reaction.

(4) Millon's test.

We may, therefore, state the tubules to be elastin, their resistance to acids being easily explainable under this hypothesis, whilst the idea of their being calco-globulin is entirely incorrect. And, still further, although we cannot say definitely there is no albumen present, yet it is in such small quantities that the idea of its forming most of the tooth-substance as calco-globulin is impossible. The dentinal tubes are also placed on a more homologous basis with the canaliculi of bone, which have been demonstrated to be elastin, whilst the dentinal fibril and its odontoblast cell are simply bone corpuscles. The work on this point is, however, by no means at an end, although at present the time at my disposal prevents any further experiments being made. According to Bödecker, the dentine and enamel are permeated by a series of protoplasmic fibres, which can be brought into view by the gold chloride method of staining. Mummery has also shown the existence of a connective tissue network in dentine.

We have now at our disposal the factors, and may follow the course of dental caries from start to finish, applying at the various stages the knowledge we have obtained. To begin with, a breach of surface generally occurs, since we rarely find caries originating all over a tooth synchronously. This breach may be congenital, traumatic or acquired ; but in any case the general results are the same.

We have already seen that carbohydrates are easily broken down into lactic acid by the action of bacteria, a well-known example being the change of the lactose of milk into lactic acid, the milk thereby becoming sour ; another example being found in the souring of wine by mycodermata aceti, an organism which will not, however, live for any length of time in the mouth, as shown by Miller, who, although able to demonstrate this organism in his mouth an hour after drinking a glass of sour beer, could find none the following morning.

Carbohydrate food, if retained at the gum margin, between the teeth, in the intercuspal spaces, or in a congenital fissure, is converted into lactic acid, which reacts upon the calcium of the tooth, forming calcium lactate. The process is not a rapid one, as the percentage of lactic acid is never above ·75 per cent., whilst it requires two molecules of lactic acid to combine with one of calcium. Calcium lactate is soluble in 9·5 parts of water, so that the probable explanation of the peculiar chalky caries may be in some way due to the slow solubility of this lactate. As the process advances, either directly through the surface, when a shallow, broad cavity is generally formed, or along a fissure, when the caries is more penetrating, the dentine is eventually reached, and the changes become more interesting.

Wälchli has shown that elastin, when undergoing putrefactive decomposition, yields amido-acetic acid or glycocol and amido-valerianic acid—and in several cultivations from carious teeth I have obtained a blood-red colouration with ferric chloride, soluble in hydrochloric acid, and we have a matrix capable of yielding gelatin. But the micro-organisms are always found in advance of the general caries, in dentine along the tubules, in cementum along Sharpy's fibres ; it therefore seems to be perfectly possible that *pari passu* with the extrinsic acid production, an intrinsic production is set up, due to the destruction of the sheaths of Neumann and the uncalcified matrix, resulting in the formation of, say, glycocol. But glycocol has the property of uniting with calcium, so that there is a secondary action in progress up to the present quite overlooked. The bacteria producing this action appear to be aërobic, as the introduction of a filling seems to cut short their ravages, although the antiseptic action of the filling material may be greater than supposed ; at any rate, the bacterial action has an important bearing on slow caries. I do not mean to say that glycocol is the only acid produced by the decomposition of elastin or chondrin, but may be taken as a convenient type of the series. This secondary acid production, which, as far as I know, has been overlooked in caries — a simple finishing-off function being ascribed to the bacteria—may have a direct or indirect bearing on the transparent zone, stated by Miller not to exist in artificial caries, whilst Tomes says it does ; and in the penetrating species of caries I have referred to above, to the nodules and rods found in the *débris*.

These have been stated by various observers to be calco-spherites formed from the "albumen" of the tooth, and composed of calco-globulin, but in the presence of acids any globulin present would be converted into acid-albumen. Again, the conditions laid down by Rané, Harting, Ord, and others, for the formation of calco-globulin, are, that an insoluble salt of calcium is precipitated in the presence of albumen ; but albumen cannot be demonstrated in any quantity in the dead tooth, if at all, and yet the production of these bodies will go on equally well if the tooth be living or dead.

Still further, some have described these "calco-spherites" as being particles of the matrix softened off by the acids. If so, a large proportion of the matrix must be albumen, but albumen does not give gelatin on boiling, whereas the tooth matrix does. Altogether, the general results of my experiments is to preclude calco-globulin from the tooth matrix. Still further experiments must be made before this theory is based on conclusive proof, but in the meantime it may be as well to accept with reservation all that has been ascribed to the reaction of calcium and albumen *inter se*, especially its so-called resistance to acids. Much has been made of the occurrence of caries in natural teeth or artificial plates in the mouth, and also in blocks of ivory, used in the early days of dentistry, but here again we must not infer too much, for if we consider the matter a moment it is evident that the attack of these substances is just what we should expect, since a tooth thus placed is simply a culture medium for the growth of certain organisms. It is situated in an incubator (the mouth), and kept at a constant temperature of 37° C., dark and moist, and the tooth contains a medium to which bacteria are partial, whilst other nutrient matter is supplied. Small wonder is it, then, that they thrive and produce caries similar in almost all details to that of the living tooth.

There is another effect sometimes, but not always, present in the carious destruction of the tooth, namely, pigmentation. There are many ideas as to its occurrence, some observers imputing the cause to micro-organisms, others to chemical reactions. Iron sulphide is said to be one cause, the sulphuretted hydrogen evolved by decomposing food reacting with the iron of the tooth substance. This certainly often occurs, but bacteria may produce a coloration depending on the specific organism. Sarcinæ, normally present in the stomach, may be perhaps one of the causes. Bacteria of this nature are called chromogenic, some of the colours being extremely bright, but depending both in their formation and intensity upon the medium on which they are cultivated, whilst the presence of oxygen seems to be a *sine qua non.*

And now a word about the action of tobacco upon bacteria, as one is often asked, "Does smoking kill microbes?" Most assuredly it does.

Miller experimented in this line, and found that in a liquid in which there was an appreciable though small trace of tobacco juice, bacteria would not live, although the strength was below that commonly present in the mouths of old chewers. But this is not all; it was found that bubbling the smoke from a cigar through a solution containing bacteria prevented their growth and killed them. I have also experimented by bubbling the smoke from a pipe through a fluid containing large numbers of streptococci cultivated from the mouth. The smoke from one pipe sterilised 10 cc. of this cultivation, no growths being obtainable on inoculating gelatin tubes after the experiment.

Upon considering the various exponents in the process of dental caries which I have touched upon, and summing up the evidence, we find caries to be entirely due to micro-organisms, both by their acid production and peptonising action upon the organic matrix. Can we, therefore, describe the process as a pathological one, and caries as a true disease? For my own part, I certainly think we may. That the tooth is living is beyond doubt; its centre is supplied with blood-vessels, nerves and cells, from which radiate fibres homologous with bone-cells and processes, the fibres of the periosteum enter the cementum, and are continuous with its fibres.

In both these situations the micro-organisms are massed during caries, and we can hardly regard the fibres as dead, whilst, if they are living, their death in caries is brought about by the bacteria and their products, the latter probably impairing the vitality of the fibres, enabling the bacteria to continue their work of destruction, whilst in caries of a tooth removed from the mouth the fibres are already dead and ready for speedy destruction. But the structure of cement is almost identical with bone, and the process of caries in cement and dentine are exactly similar, and caries of bone is always associated with micro-organisms — generally tubercle—so that we have two similar structures, each of which owe their destruction to micro-organisms. We must be careful before we say, however, caries of bone, caries of cement, and caries of dentine are similar. They have strong points of resemblance, especially when we consider that the blood-stream is in more close relationship to bone-tissue than tooth-tissue; the chief point of difference is, however, that the tubercle in bone caries is brought by the blood-stream, whilst in dental caries the entrance is from the mouth—that is, external to the tooth.

But in the case of an incised wound, say the knee-joint, bacteria may enter from the exterior—nay, *do*—and destroy the cartilage; and if we drill a hole into a tooth and leave it in the mouth, caries generally results—not that a tooth is directly comparable with the knee-joint, but that septic influences enter from without, in each case destroying gelatin-producing tissue. Other pathological conditions occur in dental caries—namely, pain, at times severe, whilst ultimately loss of function takes place.

Now, the word pathology comes from two Greek words—*πάθος* (suffering), *λογος* (a treatise)—in fact, a discussion of suffering, the science treating of disease, whilst Virchow's cellular pathology is a theory "that gives prominence to the vital action of cells in healthy and diseased functions of the body." Now, pain must be the reaction of living tissue to a morbid process, or injury, whilst the dentinal fibrils and uncalcified structures of a tooth must resist the invading organisms, even though we cannot demonstrate it.

That it exists I am convinced, and that caries of teeth is as true a pathological process as any in morbid histology. Still, it will only be by long and patient research that all the most sceptical can be convinced, and dental caries admitted to its proper place in the realm pathology.—*Guy's Hospital Gazette.*

What is a Profession?*

By W. H. WAITE, L.D.S.I., D.D.S.Phil.

Ladies and Gentlemen,—As this is the first annual meeting of the Liverpool District Odontological Society, it may perhaps be fitting to offer some plea for the creation of a new scientific body. The medical and legal professions have each their separate societies in all the large centres of population. This society represents the dental profession. Prior to the year 1878 there was no dental profession; but in that year, by the passing of the Dentists Act, Parliament acknowledged the practice of dentistry as a distinct profession, decreed that all who practise should be registered, and defined the terms upon which alone any name can be placed on the register. Thus the dental profession became a legally recognised body. Odontological societies have existed in London, Edinburgh, Manchester, and other places for several years; hitherto Liverpool has been behindhand. The society has not only a definite sphere but a distinct aim. Our objects are twofold. First, the diffusion of knowledge. Our platform admits the discussion of all subjects, either scientific or practical, that relate directly to the practice of dentistry, together with all those varied and numerous topics which we may call the allied sciences. Second, the cultivation of friendly intercourse among the members throughout the district. We have nothing to do with dental politics. Commencing in January last with about 50 members, and having around us some 200 reputable practitioners as a constituency, we trust that our society will not only justify its formation, but in time be the means of elevating the status of the profession in this neighbourhood, and if so it will be of unquestionable advantage to the community. It was with much misgiving that, in obedience to the extreme kindness of the members, I accepted my present position, and it is with considerable diffidence that I now venture to offer a few remarks by way of apology for a president's address. Suggestively, by no means dogmatically, and in any case very briefly, let us inquire a little into the exact position of the dental profession. We have already spoken of it as a legally recognised body. That phrase tells us very little. What title have we to be considered as a profession? What is a profession? Certain distinctions have been made between professions and trades—social distinctions, conferring privileges on the former which are denied to the latter. These do not help us at all; they have no foundation in reason. What are the distinctive characteristics of a profession? Wherein does it differ from a trade? A very simple suggestion may help us. In a trade transaction the public seek an article; in professional matters the public seek an individual. In trade the public can examine the article, estimate its value, and decide for or against it beforehand, whereas in a profession the public must confide in the individual, having only for its guidance the reputation and experience of the individual. In trade the individual is of small consequence, provided the article is genuine: but in a profession the individual is of the first importance—his knowledge, his skill, his character count for everything. In trade, finally, the public can be equally well served at any respectable establishment—the demand and the supply are for the most part uniform. In the professions there is infinite variety; identity is well-nigh impossible, either in the matter requiring attention or in the individuals whose services are sought. The enumeration of these points is not arbitrary or artificial. There is no obscure or secondary purpose. We are striving after an answer to the query: What is a profession? All manner of unfair and grotesque inferences have been drawn from the facts just recited; but we have nothing to do with any conclusions save those which may elucidate the exact position of the professional man. Why is he called professional? Because he professes to understand, and he professes to be able to perform the duties pertaining to his speciality. He has no goods to exhibit for inspection or competition when he enters the arena, but he has to show that he possesses the knowledge, the skill, the character he professes. He must be taken very largely on trust, but when once he has demonstrated his capability his position is as well assured as anything mortal can be.

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* An address delivered at the First Annual Gathering of the Liverpool Odontological Society.

Assuming this definition to be just, let us proceed to inquire how far the practice of dental surgery comes within the limits laid down? Already we have admitted three essentials, viz., knowledge, skill, character. Our first postulate, therefore, is that dental practice demands an amount of knowledge not less important than that required in any other profession; intimate knowledge and general knowledge. Intimate knowledge of all the tissues found in the oral cavity and its associate parts; much of this is microscopical, and only to be obtained by considerable labour. Intimate knowledge of the process of development, together with the irregularities probable or possible. Intimate knowledge of normal and abnormal conditions, morbid and pathological changes, to which these parts are liable. Intimate knowledge of the manifold methods of treatment, including a thorough acquaintance with the chemistry of the oral fluids, and the medicaments and materials employed. Intimate knowledge of the subject of anæsthesia and the mode of administering various anæsthetics. Intimate knowledge of the multifarious instruments, appliances, &c., by help of which operative dentistry has risen to the rank of a fine art. And last, yet certainly not least, intimate knowledge of mechanics, particularly the mechanical action of the facial muscles, and the judicious construction of artificial substitutes. This intimate knowledge is indispensable to intelligent and successful practice ; without it a man may practise, but he cannot hold place among professional men. Again, general knowledge is required ; structural and functional anatomy, physiology, digestion, circulation, nutrition. General knowledge of those obscure nervous disorders which often involve dental suffering. but for which the dental organs are not wholly responsible ; general knowledge of malignant and other growths liable to occur about the head and neck, and all and sundry the diseases with which the dental organs may become complicated ; general knowledge of chemistry, materia medica, metallurgy, &c., in short, the scope of general knowledge cannot be defined. It will be observed we are confining our attention to professional knowledge. Intellectual culture need not be insisted on here ; it goes without saying, the more a man has of it the better for him in any case. Now the question arises—what guarantee can the public obtain as to the knowledge of a dental practitioner ? Much every way. By the provisions of the Dentists Act, no man can call himself dentist, dental surgeon, or the like, unless he is registered under the Act ; also, no man can now be registered until he has passed through a curriculum embracing all the subjects we have recited, and stood the test of a thorough examination by one of the licensing bodies. This is the analogue of other professional guarantees, and if people would take the precaution to inquire, there need be little disappointment as to the professional knowledge of the dentist nowadays.

Here, then, is our first attribute, viz., acquired and accredited knowledge. Not a whit less valuable, as an item in the equipment of a dental surgeon, is skill, or, as some might prefer to say, technical knowledge. A man may be able to pass oral or written examinations, and yet not know how to perform a single operation creditably. The first belongs to the head ; the latter to the hand. Precisely what do we mean by skill ? There are two sorts—first, manual dexterity, or manipulative skill. This is a natural gift. Some have it in a large measure ; others not at all. The natural gift, however, is crude. It needs training—the training of the fingers, and this must be given in early life. A modest natural gift may be trained into a fair average talent ; and the dentist, above all professional men, needs thorough training of the fingers—the development of the tactile sense. A facetious professor at one of the American colleges used to tell his class that the dentist ought to feel as much at one end of the instrument as the patient feels at the other. There can be no doubt the comfort, and therefore the confidence, of the patient depends on the manual dexterity of the operator. Ranging over the wide field of possibility now covered by the art of surgery, we find no class of operations more exacting than those which fall within the dental domain. Even the exquisitely delicate work done by the oculist scarcely calls for more tender manipulation or more sympathetic treatment. Over and above the ordinary difficulties there is always the handicap of having to work within the oral chamber, often by reflected light, and in positions almost inaccessible. Moreover, while general surgery is shorn of much of its terror, and a great part of its difficulty, by anæsthesia, dental surgery has to rely mainly on the unaided skill of the operator. Ophthalmic surgery, with its marvellous triumphs, is deeply indebted to cocaine, and other operations may be discounted by chloroform or ether. The dentist can make but little use of these merciful agents ; the tedious and irritating details of conservative work must be gone through while the patient is wincing, and sometimes resisting, a fact which strongly emphasises the demand for manipulative skill, and the cultivation of the tactile sense. But there is another kind of skill, artistic—also a native endowment, the value of which is exhibited chiefly in connection with the restoration of lost parts, especially where the facial contour has been interfered with. Artistic skill marks the contrast, not always recognised, but, nevertheless, an exceeding great and precious contrast, between the work of restoration so clumsy and ill-adapted that it proclaims itself to every passer-by, and skilful restoration, which all but defies detection, and certainly never attracts observation. The lack of artistic skill often brings glaring discredit on dental work in the department of prosthetics ; on the contrary, the possession of true artistic skill in the long run adds very substantially indeed to the appreciation with which the dentist is regarded by those whom he serves. What assurance can the public obtain as to the skill of the dental practitioner ? Well, the curriculum provides for a period of three years devoted to manipulative training in mechanical work ; also a further period of two years' practice at a dental hospital. These afford sufficient opportunity if diligently improved. It should ever be remembered, however, that no legal restrictions and no professional safeguards can protect the public from unskilled treatment, unless the public will endeavour to protect itself by careful inquiry and the exercise of common sense. After all, and above all, throughout and over all, the grand requisite for a professional man is character. Integrity, generosity, kindliness, patience, go to make up the character, and the dentist needs them all. Every profession makes a similar demand, by reason of the fact that the public are compelled to trust the professional man.

It may be doubted, however, if there is any department of activity openly exercised and greatly in request among all classes, in which there is wider scope for conscientious dealing than the calling now under consideration. Not only are people ignorant of their malady, its precise nature, and possible cure, but they are prejudiced by erroneous ideas eagerly imbibed from impure sources, and prejudiced, moreover, by unnecessary dread of dental operations. Further, people generally have little knowledge of the position of the dental surgeon up to date, they exhibit slender discrimination, and hence the door is open to maltreatment and imposition. In this connection one cannot help referring to the serious evils that have followed the introduction of nitrous oxide. Ignorance perverts and subverts the highest good, and so this agent, which when legitimately employed is an unspeakable blessing, becomes by abuse little less than a curse. The idea that an offending molar can be got rid of without pain has given rise to a terrible slaughter of the innocents. Thousands upon thousands of these sacrifices are offered daily. Indignation swells into anger when one thinks of the mischief thus inflicted on the race. Here, then, we discover a *sine qua non!* The dentist must cherish his integrity. He must have patience to explain the error of wilful sacrifice, and point a more excellent way to comfort and usefulness. He must be brave enough to maintain his conviction and preserve his integrity, even though it lose him a patient. It is the charlatan who thinks first of his own profit. The true professional man is chiefly concerned for the interest and welfare of his patient. No fee can purchase unimpeachable integrity, but in the end it never loses its reward. It might be more generally understood that professional men never advertise in any way; professional ethics forbid advertising, on the ground that a man's testimony concerning himself is likely to be misleading, and is certainly derogatory to the dignity of professional character. So far we are building on solid ground, for there can be found no stronger security of professional reputation, or surer basis of public confidence, than the triple foundation, knowledge, skill and character. If further evidence be needed to support our claim to the rank of a liberal profession, such evidence is forthcoming. For nearly forty years, more or less, in London, Liverpool, Edinburgh, Manchester, Birmingham, Exeter, Plymouth, Dublin, and Newcastle, &c., dental hospitals have been established. These hospitals have a dual purpose, viz., charitable and educational. Interdependent and mutually helpful, these two objects are worked out for the benefit of the community. While students are trained in the most advanced and skilful methods, many thousands of the poor find relief, not in reckless sacrifice, but by scientific and generous treatment. We are not ashamed to point to the Liverpool Dental Hospital, in Mount Pleasant, as an example. After some thirty years' connection with the staff of this institution, one may be pardoned for feeling a deep interest in it, and perhaps one may be permitted to speak with confidence about it. The number of patients admitted last year exceeded

25,000, and an average of 500 fillings were introduced every month. These figures are eloquent. A moment's reflection suffices to show the practical wisdom of combining charity with education.

It would be impossible to deal with such a mass of work without the voluntary services rendered by our students ; and, on the other hand, no efficient training could be provided for the continually increasing number of students apart from the facilities afforded by this excellent charity. Under the supervision of the honorary staff, house surgeon, and demonstrators, conservative work of the highest quality is being done daily—work that is rarely eclipsed in any private surgery. What is true of our own is also true of the other dental hospitals, of which as a profession we are justly proud. Unostentatiously and persistently they are fulfilling their vocation to the indescribable advantage of the entire community, besides furnishing a complete answer to our inquiry as to the exact position of the dental profession. Our dental hospitals not only record past achievement, they also indicate the direction of future progress, which ever tends onward and upward toward the salvation and perfection of those valuable organs with which we have to deal. Our profession is one in which its members take a deep delight—a profession whose progress is phenomenal—a profession yielding space for noble ambition, pure endeavour, and high achievement—a profession peculiarly devoted to the relief of human suffering and the promotion of human happiness. Concerning it we may say our diagnoses are as correct, our methods as effective, our power of restoring comfort and utility as secure, and the permanence of our work as universal, as are to be found in any other profession. The cardinal virtue which has elevated the practice of medicine all the world over is the spirit of self-sacrifice, and it is our joy to bear witness to the same lofty inspiration rapidly asserting itself among our own members. The licentiate of dental surgery who has passed through the curriculum, obtained his diploma, and inscribed his name on the dentists' register, is within his own sphere the equal of his compeer in any walk of life. His knowledge is accredited, his skill assured, and his character, if yet to be proved, may be safely assumed. As he works his way into practice, he wins for himself appreciation, honour and renown second to none in the noble army of labourers for the welfare of mankind.

Death from Chloroform given for a Dental Operation.

Verdict of "Manslaughter" against an Unregistered Dentist.

An inquest was held at Idle, on April 18, touching the death of Lavinia Sawdon, a domestic servant, aged 15, who met with her death on Friday during the administration of chloroform. From the evidence it appeared that the girl was the daughter of a farm labourer, living at Weaverthorpe, near Malton, and had been in the service of Mr. Lister Sykes, an insurance agent of Idle, since last December. She usually had robust health, but for several weeks had suffered intensely from toothache. On Friday she went to Joseph Priestley, who has practised dentistry at Idle for seven years, but whose name does not appear on the Register. He said he could remove the teeth, but after using the forceps a portion of one of the teeth snapped off. He then said that the girl might be spared any further pain if she were put under the influence of an anæsthetic, the charge for which would be 3s. or 3s. 6d. She assented to the proposal. Priestley used about half an ounce of chloroform, which was administered in two doses. The patient's condition suddenly became alarming. The pupils of the eyes dilated, and though there was a slight movement of the lungs perceptible, the pulsation of the heart appeared to have ceased. A neighbour was called in, and found Priestley endeavouring to restore animation. She asked if a doctor had been summoned, but he said he did not consider it necessary just then. Medical aid was summoned, but death occurred before the doctor arrived. Dr. Honeyburne stated that he had conducted a *post-mortem* examination of the body, and found that the heart and brain and other organs were quite healthy. There was a large quantity of undigested food in the stomach The Coroner: In your opinion what was the cause of death? Witness: I should think the chloroform; there was nothing else that could account for it. There were no traces of weakness or disease? None whatever. There could hardly be a healthier person. In reply to further questions witness said that in performing operations upon persons under the influence of anæsthetics it was usual for the operator to have the assistance of a qualified medical man to administer the drug. The jury returned a verdict of "manslaughter" against Priestley, who was immediately placed under arrest.—*Northern Daily Telegraph.*

On April 20 Priestley was brought before the West Riding Court and committed to take his trial at the Assizes.

At Leeds, on Saturday, May 9, before Mr. Justice Wright, Joseph Priestley, on bail, aged 31, herbalist, was charged with the manslaughter of Lavinia Sawdon, at Idle, on April 17, 1896. Mr. Edmondson prosecuted on behalf of the Treasury: the prisoner was defended by Mr. C. Mellor and Mr. Horace Marshall, and Mr. R. Pike Glasgow watched the case on behalf of the British Medical Association. The prisoner is a herbalist and a maker of imitation teeth, and, though unqualified, practises dentistry at Idle, near Bradford. Lavinia Sawdon was a servant girl in the service of Mrs. Sykes, of Idle. Mrs. Sykes stated that on April 17, at 12 o'clock, deceased made a hearty meal of beef, potatoes and pudding, and at the girl's request she sent for the prisoner. The prisoner came to Mrs. Sykes' house at 1 o'clock, examined the girl's mouth, and said he could get the tooth out all right. The girl asked if she might have it out by gas. Witness asked if it would do any harm, and he said, "Oh, no." The deceased then went to the prisoner's house, which was next door. According to the evidence the prisoner had administered about half an ounce of chloroform on a handkerchief, and had drawn the tooth without any assistance, or with any other persons present in the room. No preparations had been made, and no remedies were at hand in case the girl should not come round in the ordinary way. Mrs. Sykes, becoming alarmed at the girl's absence, went to the prisoner's house and learned that the girl had not come round. A doctor was called at once, but the heart's action had stopped and he was too late to be of any assistance. Dr. Honeybourne, M.D., stated that he formed the opinion the deceased died from chloroform, because of the asphyxia, and the fact that there was nothing in the *post-mortem* to account for the death. It was not the practice for qualified men ever to administer chloroform alone except in cases of urgency. Half an ounce was a very large amount to use, but it depended much on the way in which it was administered. By the Judge: Witness stated that no care, however skilful, could prevent a person's dying from shock after the administration of chloroform. Artificial respiration properly performed would save a person from asphyxia if applied before the stoppage of the heart. He thought it would probably have saved the deceased in this case. Dr. Lodge, police surgeon, confirmed the above. Arthur W. Matthews, licentiate of Dental College of Surgeons, and dental surgeon to the Bradford Dispensary, stated he should call in a medical man to administer chloroform while he did the operation. The patient must be watched while under chloroform, and the operator cannot do that. The Judge, in summing up, stated that, whatever the result, the prosecution was perfectly proper. It had called attention to the dangerous results that may arise from allowing ignorant persons to use and practise a skilled profession. The law allows an unqualified person to perform operations and practise his profession, and, provided he is not negligent, but uses due care, he was not criminally liable. The question was whether it had been made out that this man was administering what he knew, or ought to have known, was a dangerous drug, without making the necessary precaution of having assistance, or in preparing the patient, as he ought to have known were necessary. It was said the dress and stays ought to have been loosened; the chloroform ought not to have been administered after a heavy meal; and there ought to have been remedies ready at hand and some person to watch the patient and apply those remedies if anything went wrong. It really came to this—Was he guilty of criminal negligence in using chloroform when he did not know more about it? The jury, after retiring for two hours and twenty-five minutes, returned into Court and stated:—"We are unable to agree; we think the indictment is too hard." The Judge: If a majority are in favour of the prisoner, you must remember the prisoner is entitled to the benefit of any doubt. The jury then found a verdict of *Not Guilty*, and the prisoner was discharged, the Judge stating that the jury had taken a merciful view of the prisoner's case.—*Times.*

Dentists and the Use of Anæsthetics.

A DEPLORABLE death under chloroform near Bradford, resulting in the committal for trial on a charge of manslaughter of a dentist, again calls attention to the unsatisfactory state of the law with regard to the administration of anæsthetics. The victim in this case was a young girl who died under chloroform while undergoing a dental operation. It seems that the drug was given by the dentist alone, although, according to the medical evidence at the inquest, it was usual in cases of this kind to have the assistance of a qualified medical man to administer it. It is stated that the name of the dentist does not appear on the register of dentists, established by the Dentists Act, 1878. Apart from the merits of the case, into which it would, of course, be improper to enter at this stage of the proceedings, the question of legal liability raised is one of considerable public interest and importance. It may seem strange, but the right to administer anæsthetics has nowhere been made the subject of direct enactment. Neither the Medical Acts nor the Dentists Acts contain any provisions dealing with the matter. Both these statutes are concerned with prohibiting the assumption of title by persons not having the right to call themselves doctors or dentists. As regards the latter, it is perfectly lawful for any person to practise dentistry, but he must not directly or indirectly take the title of dentist unless registered in accordance with the Act; nor can he, unless so registered, recover by legal process any fees for dental operations or advice. The practice of medicine rests upon a somewhat different basis. Although the Medical Acts do not prohibit unregistered persons practising medicine *per se*, there is a statute which, to some extent, does so. We refer to the Apothecaries Act, 1815, which makes it an offence for any person to act or practise as an apothecary unless certificated under that Act. There have been numerous decisions under this statute, of which the one nearest in point established that a surgeon might administer medicines, in and as ancillary to a surgical case without incurring the penalty: (*Apothecaries Company* v. *Lotinga*, 2 M. & Rob. 495; and see *Leman* v. *Fletcher*, 28 L. T. Rep. 499). Is, then, the administration of anæsthetics by a dentist in connection with a dental operation protected by this decision? That seems to depend on whether the dentist holds a surgical qualification or not. There are registered dentists and registered dentists. Many are registered merely by virtue of the fact that they were practising dentistry at the time when the Dentists Act was passed, a class for whose benefit that Act contained a special saving clause. They must, of course, become a diminishing quantity. Others, again, hold foreign or colonial diplomas only. The majority, perhaps, of our new practitioners hold a surgical qualification, as required by the Act. Probably they would be entitled to administer anæsthetics on the authority of the above-cited case, though the point is not free from doubt. But there is a large class of practitioners who are not registered at all, who practise dentistry though they may not call themselves dentists. It is very questionable whether they do not infringe the Apothecaries Act by administering drugs of this kind. At any rate it is from such persons that the dangers connected with the use of anæsthetics are likely to arise. When it is borne in mind that nearly all properly qualified dental surgeons of any standing employ a doctor to administer the drug, it is easy to see the grave peril arising from its indiscriminate use by unqualified persons. It is time that the whole subject should be placed upon a clear and definite statutory basis, and that not only the assumption of titles, but the practice of medicine in any of its branches, should be confined to those only who possess a recognised legal qualification.—*The Law Times.*

Corrosion of Aluminum.

In order to ascertain the effects of the weather on ordinary sheet aluminum, Professor A. Liversidge has had two shallow dishes made of one twenty-fifth inch gauge metal, of the best commercial quality, and exposed on the roof of the laboratory, University of Sydney, from November 23, 1893, to December 7, 1894, or fifty-four weeks. The metal was made into basins so as to catch rain-water, and to give the salts, &c., which it might hold in solution, an opportunity to act on the metal. The metal soon lost its brilliancy and became somewhat rough and speckled with large light gray patches; it also became rough to the feel, the gray parts could be seen to distinctly project above the surface, and under the microscope they presented a blistered appearance. This incrustation is held tenaciously, and does not wash off, neither is it removed on rubbing with a cloth. The raised parts are considered due to the formation of a hydrated oxide. Contrary to expectations, the cups had not lost weight, but had even increased. One weighing 13·91 grm. had increased by 0·104 grm., and the other, weighing 13·865 grm., increased by 0·080 grm. After boiling in water for some hours, and rubbing, the first still showed an increase of 0·77 grm. and the second of 0·055 grm. To ascertain the effect of common salt, a plate of the same metal, three by four inches, and weighing 19·829 grm., was repeatedly dipped in a solution of sodium chloride and allowed to dry for three months ; this lost 0·019 grm., and after washing and rubbing dry 0·59 grm.

One reason for making these experiments is that Mr. H. C. Russell, F.R.S., the Government astronomer, some years ago tried aluminum cups for a rain gauge, but found that they were so quickly corroded through that he had to relinquish the use of the metal (if they had been gilt they might, however, have answered well enough). It is a very common thing to see aluminum recommended on account of its lightness and its assumed permanent lustre ; this assumption being due to the statements repeated from book to book, that aluminum is unaltered by exposure to the air, to the action of water, hydrogen sulphide, and only slightly by dilute acids. The absolutely pure metal may be permanent in the air, but the best aluminum ordinarily obtainable is, in this respect (in Professor Liversidge's opinion) little, if at all, superior to zinc. The commercial metal does not retain its lustre, but very rapidly acquires the appearance of old zinc. Recently it has also been found that aluminum is acted on by sea water. Hence the claim, often advanced, that aluminum is a metal resembling gold or silver in not oxidising, rests on a slender foundation.—*The Optician.*

Two Cases of Gangrenous Stomatitis, one ending Fatally.

By R. MILBOURNE WEST, M.R.C.S.Eng., L.R.C.P.Lond.

Case I.—A healthy-looking woman, aged 28 years, sent for me on November 24, 1895, suffering from what appeared to be ordinary tonsillitis threatening quinsy. Both tonsils were red and swollen, the left particularly so ; the cervical glands were enlarged ; she had considerable pain and difficulty in opening the mouth, with dysphagia. Her temperature was 102° F. There was no membrane and no albuminuria. She was ordered gargarisma Condii and glycerinum acidi tannici. On the following day she appeared to be worse, there being complete dysphagia, fluids running out of the corners of her mouth together with insomnia. The left tonsil was covered with a grey slough the size of a threepenny-piece, which was easily detached, leaving a fairly deeply excavated ulcer, which was swabbed with glycerinum acidi carbolici. On the 26th the right tonsil and most of the soft palate were involved in the sloughing. Her general condition was weaker, she having taken very little nourishment. Local treatment could only be applied with difficulty, owing to the patient's objections. On the 27th the uvula sloughed off. The soft tissues covering the hard palate had become involved. She had an attack of dyspnœa, which, however, passed off. On the 28th she died suddenly, apparently from heart failure. The whole of the uvula, soft palate, and left tonsil, part of the right tonsil, and the soft tissues covering the bony palate were destroyed.

Case 2.—A son of the above patient, aged 8 years, and living with her, was taken ill on the same day as his mother with similar symptoms, though in a milder degree. His temperature was 103° F. Both tonsils were involved, the sloughs on separating leaving deep ulcers and in some parts completely destroying the soft palate and tonsils He was treated throughout with glycerinum acidi carbolici and occasional washing out with antiseptic solutions. He did well and was convalescent by December 3, having lost both tonsils and part of his soft palate.

The above cases are of interest as showing the extreme rapidity of the disease, thus resembling cancrum oris in infants. Two patients in one household having been attacked points to the malady being infectious—indeed, the elder patient died apparently from acute septicæmia. The disease differed materially from diphtheria in the deep and extensive sloughing, being not merely an exudation on to the surface and into the more superficial parts ; also in the entire absence of albuminuria, and, in the younger patient, in the absence of paralytic sequelæ.—*Lancet.*

Obituary.

M. P. Dubois.

It is with extreme regret that we hear of the death of M. P. Dubois, who was knocked off his bicycle and run over by a coach when turning a corner of a Parisian street. He recovered consciousness, but died within twenty-four hours. M. Dubois was Editor of *L'Odontologie*, President of the Association of Dentists in France, and a Professor in l'Ecole Dentaire.

Reviews and Notices of Books.

ON POSTURE IN ITS RELATION TO SURGICAL OPERATIONS UNDER ANÆSTHETICS. By Frederic Hewitt, M.A., M.D.Cantab., Anæsthetist at the London Hospital, Charing Cross Hospital, and the Dental Hospital of London; and A. Marmaduke Sheild, M.B.Cantab., F.R.C.S.Eng., Assistant Surgeon to St. George's Hospital, and to the Royal Hospital for Children and Women. (From vol. 79 of the *Medico-Chirurgical Transactions*.) London: Published by the Royal Medical and Chirurgical Society of London, and sold by H. K. Lewis, 136, Gower Street, W.C., 1896.

This monograph deals fully with the various positions in which it is customary to administer anæsthetics; essentially it is of most interest to general surgeons, but yet dental surgeons will learn much by its perusal. It is not at all uncommon to witness faulty positions of the head when in the dental chair, rendering the inhalation uncomfortable for the patient and the resulting anæsthesia unsatisfactory. The study of the excellent diagrams, illustrating both faulty and correct positions, will well repay any time spent on them.

New Inventions, &c.

Soloids of Carbolic Acid.

A safe and convenient method of carrying definite quantities of undiluted carbolic acid, ready for the instant preparation of the many antiseptic solutions used in surgical, gynæcological and sanitary work, has long been a desideratum, and we feel sure that the new "Soloids" will meet this great want.

These "Soloids" are supplied by Messrs. Burroughs, Wellcome & Co., in bottles of 25 and 100 each, contain exactly 5 grains each, and are made of a characteristic shape and colour to distinguish them from "Tabloids" intended for internal administration. The distinctive colour is communicated to the liquid in which they are dissolved, so that it cannot be confused with any other solution in general use at the operating table or in the sick room—a point of great importance

Soloid.

Tabloid.

For use as an escharotic, one "Soloid" may be held in a small piece of cotton wool and gently rubbed over indolent and foul ulcers, or applied for the removal of growths. Dissolved in five ounces of water, one "Soloid" makes a solution suitable for use as a disinfectant or antiseptic spray, for application to the mucous membranes of the mouth, pharynx, larynx, nasal cavities, &c.

Compound Caffeine Tabloids.

We have also received from Messrs. Burroughs, Wellcome and Co., a sample of compound caffeine "Tabloids." Each "Tabloid" contains one grain of caffeine and three grains of antipyrin, and like all other "Tabloids" intended for internal administration, disintegrates immediately on coming into contact with water or the juices of the stomach.

The analgesic action of small doses of antipyrin has been frequently proved, and it seems possible that the above combination will prove useful in many forms of neuralgia in which it is inadvisable to give antipyrin without an accompanying heart tonic. "Tabloids" of compound caffeine have been strongly recommended by some authorities in cases of megrim, and it is in cases of this disease that the best results have so far been obtained.

Miscellanea.

The Dental Register.

The names recorded in the Dental Register for 1896 show an increase of 34 on the numbers of 1895. No less than 3,452 of the 4,908 on the Register are still without any additional qualification; the rest have, for the most part, qualifications from one or other of the several bodies who grant diplomas. The Royal College of Surgeons of England takes the lead with 712 Licentiates, an increase of 49 on the previous year. The Royal College of Surgeons of Edinburgh has 144, the Faculty of Physicians and Surgeons of Glasgow 122, and the Royal College of Surgeons in Ireland 447

Licentiates on the Register. Foreign dentists numbered 27, as last year—11 Doctors of Dental Medicine of the University of Harvard and 16 Doctors of Dental Surgery of the University of Michigan.

The Oldest Human Teeth.

According to *Invention*, "Two teeth have been found at Tanbach, near Weimar, which are claimed to be the oldest human teeth yet discovered in Europe. In all probability they are the teeth of a cousin of our friend Anthropopithicus Erectus. One is a milk molar tooth, the other a permanent first molar of the left lower jaw. The latter shows a striking resemblance to the corresponding tooth of the chimpanzee, but it differs materially from those of the gorilla or ourang-outang. From what can be inferred from this find, modern teeth have largely shrunk in size from those of our early prototypes."

Dental Education in Canada.

A step of great importance in the Canadian dental world has recently taken place by the affiliation of the Montreal Dental College to the University of Bishops College. The advantages of this movement are: the students will be enabled to obtain a degree, namely, Doctor of Dental Surgery; the teaching will become more efficient; and last, but not least, the dental and medical professions cannot but fail to be drawn more tightly together. Dr. Beers, whose great devotion to Canadian dental education is so well known, was the first recipient of the degree, and to him it must indeed be most gratifying to see the immense strides the colony is making in all matters relating to dental work.

Charing Cross Hospital.

We understand that the post of Lecturer on Surgery at the Hospital, rendered vacant by the retirement of Mr. Bloxam, has been filled by the election of Mr. Stanley Boyd. There seems to be a possibility that Mr. James Cantlie, who has recently returned from China, may again join the teaching staff. Mr. Cantlie's reputation as a teacher and friend still lives amongst the old dental men, and his inclusion on the staff as Lecturer on Anatomy would, we think, be beneficial to the well being of the School, and would, no doubt, decide many a wavering student in the choice of his general hospital.

The Medical Profession and Unqualified Dentists.

We note with pleasure that at a meeting of the Oxford and District Branch of the British Medical Association, held on April 24, the following resolution was passed:—"The members of this branch agree that they will not assist professionally, meet in consultation, or administer anæsthetics for members of the dental profession who advertise." A similar resolution was recently adopted by the Dundee and District Branch of the same Association.

Faculty of Physicians and Surgeons of Glasgow.

At the April sittings of the Dental Board the following candidates were admitted licentiates in Dental Surgery:—Albert E. Apperson, Birmingham; Joseph H. Stromier, Glasgow; Thomas B. Carson, Glasgow; Thomas W. Byrne, Liverpool; Garibald Watson, Johannesburg; Frederick Samuel Jenks, Sparkhill. The following passed the first examination only:—Henry Adams, Thomas Allday, Osward Armer, Bertram Henry Davis, Frederick Samuel Jenks, Joseph K. Pedey, Edwin C. Robberds, Thomas H. Taylor.

Mr. J. H. Mummery has been elected President of the Representative Board in place of Mr. S. J. Hutchinson, whose period of office has expired.

Correspondence.

We do not hold ourselves responsible for the views expressed by our correspondents.

Advertising Dentists.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—The letter of *A Middle-class Practitioner*, which appeared in your last issue, touches upon a very important matter, and as the writer asks for a remedy may I suggest one? He says that he probably is not the only dentist who, during the last few years, has had less mechanical work to do than formerly—and this not because there is less to be done, but because there are so many unqualified workers in the field. Now, although I think the assertion of *A Middle-class Practitioner* as to the cause of the alteration in the proportion of the conservative and prosthetic work that we do is not quite an accurate statement of the case (for I think the public is every day becoming better informed upon dental subjects, and this enlightenment is a considerable factor in producing the change in question), yet his letter draws attention to a subject which needs more consideration than it has hitherto received, and is one well worth discussing in the pages of this, our representative Journal.

A Middle-class Practitioner suggests fresh legislation as a remedy for the evil, but, apart from the difficulty of obtaining it, how could we be sure that matters would be improved thereby. Since 1878 we have had a weapon which, until quite recently, we have been afraid to use lest we should injure ourselves. Why then should we get more powder, since we are afraid to work our guns?

No! in seeking a remedy we must first determine the cause or causes of the disease. Now it seems to me that the section of the public which patronises unqualified practitioners may be divided into two classes, *i.e.*, first, those who do so from ignorance (in other words, those who believe them to be qualified), and second, those who, knowing them to be unqualified, consult them from economical or other considerations. Of these two classes the first is by far the greater, and it is the one that the Dentists Act was especially framed to protect. It is a matter of common experience that the method universally employed by the dental impostor to allure the unwary is advertisement. It follows, therefore, that the best protection to afford the public is to render it impossible for such advertisement to mislead as to the legal status of the advertiser. The most direct method of gaining this end is to prosecute the unregistered *upon their advertisements alone.* I have never yet read an advertisement of a would-be dentist which did not convey to the majority of its readers the impression that the advertiser was a dentist, and which would not in consequence be alone sufficient to convict the offender. I have lately seen an advertisement in the form of a pamphlet issued by one "Dr.' Shattuck (a worthy gentleman who urges among his other claims to distinction his former connection with some "American Company" or other)—a pamphlet which is admirably calculated to entrap that section of the public included in the first of the two classes mentioned above. I am convinced that this man Shattuck could be convicted upon his advertisement, as could the company of impostors with whom he boasts his previous connection be convicted upon theirs. The object in every such case is to evade the law, and it is our duty, as well as to our interest, to take care that the offenders should be brought to justice. This method of basing the prosecution upon the advertisements of the offenders might, where the case was tried before an exceptionally ignorant magistrate, result in an occasional adverse decision, but in a very short time there would be sufficient convictions to render the methods of advertising so extensively adopted at the present time by the dental impostor, altogether too hazardous and unremunerative.

I am, sir,
Your obedient servant,
T. E. CONSTANT.

Argyll Lodge,
Scarborough,
April 18, 1896.

Anæsthetics and their Moral Responsibility.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—In view of recent events which have so much engaged the attention of the medical profession and its branches, the enclosed copy from an old work on the subject may not be uninteresting or out of place at this time.

We know that the imagination of the most pure and healthy-minded people will at times run riot, and as we, members of the dental profession, have so much to do with anæsthetics of all kinds, when patients are apt to give expression to the wildest thoughts under the influence of the anæsthetic, especially ether, it would be cruel indeed to hold them guilty of any indiscretions in act unless those wild ravings are corroborated by some other suspicion.

In the late case there appeared to be no suspicion and no suggestion of any impropriety whatever, or it was pretty clear it would have been brought up at the trial.

As a rule men of experience, who are accustomed to hear these incoherent expressions of an excited imagination, forget them the moment the patient has recovered, but should they remember them they would consider it to be a most dastardly act to repeat them.

After Pythagoras, we find medicine taught by Anaxagoras, Democritus, Heraclitus ; but Hippocrates was justly considered the father of medicine, and deserved the name of *great*. Every line of his immortal works breathes a deep knowledge of the phenomena of nature, and an ardent desire to release the most important of all human sciences from the degrading trammels of ignorance and imposture. Nothing can afford a more convincing proof of the purity of his motives, and the integrity of his principles than the formula of the oath which he exacted from his disciples, and which runs as follows :—

"I swear by Apollo, by Esculapius, by Hygeia, and all the gods, to fulfil religiously the solemn promise which I now do make.

"I will honour as my father the master who shall teach me the art of healing, and convince him of my gratitude, by endeavouring to minister to all his necessities. I will consider his children as my own, and will gratuitously teach them my profession should they express a desire to follow it.

"I shall act in a similar manner to all my brethren who are bound by a similar engagement, but shall not admit any other to my lessons, my discourses, or the exercises of my profession.

"I shall prescribe to my patients, such a course of regimen as I may consider best suited to their condition, according to the best of my judgment and capacity, seeking to preserve them from anything that might prove injurious.

"No inducement shall ever lead me to administer poison, nor shall I ever give criminal advice, or contribute to an abortion.

"My sole end shall be to relieve and cure my patients, to render myself worthy of their confidence, and not to expose myself, even to the suspicion of having abused this influence, more especially when a woman is in the case.

"I shall seek to maintain religiously both the integrity of my conduct, and the honour of my art.

"I will not operate for the stone, but leave that operation to those who cultivate it.

"To whatever dwelling I may be called, I shall cross its threshold with the sole view of succouring the sick, abstaining from all injurious views and corruption, especially from any immodest action.

"If during my attendance, or even after a recovery, I happen to become acquainted with any circumstances of the patient's life which should not be revealed, I shall consider this knowledge a profound secret, and observe on the subject a religious silence.

"May I, as a rigid observer of this my oath, reap the fruit of my labours, enjoy a happy life, and obtain general esteem—should I become a perjurer may the reverse be my lot."

R. F. H. KING.

Newark, *Notts.*,
April, 1896.

Books Received.

The History of Surgical Anæsthesia (Read before the Medical Society of Charing Cross Hospital), by H. Bellamy Gardner, M.R.C.S.Eng., L.R.C.P.Lond., Assistant Anæsthetist to Charing Cross Hospital, Fellow of the Obstetrical and Gynæcological Societies of London, Member of the Society of Anæsthetists. *London:* Baillière, Tindall & Cox, 20 and 21, King William Street, Strand.

On Extraction, with Notes on the Anatomy and Physiology of the Teeth for Medical Students, by W. D. Woodburn, L.D.S. *London:* Baillière, Tindall & Cox, 20 and 21, King William Street, Strand. (Paris and Madrid.) 1896. All rights reserved. Pp. 96. Illustrated.

Dental Pathology and Practice, by Frank Abbott, M.D., with ninety-seven illustrations. *Philadelphia:* The S. S. White Dental Manufacturing Co., 1896. Pp. 237, with Index.

The Dental Cosmos, The Medical Press and Circular, The Montreal Daily Witness, Invention, The Dominion Dental Journal, The Transactions of the Odontological Society of Great Britain, Items of Interest, Leeds Daily News, The Bradford Observer, The Yorkshire Evening Post, L'Odontologie et la Revue Internationale d'Odontologie, The Pharmaceutical Journal, The Chemist and Druggist, The Students' Journal, (Liverpool Dental Hospital), The Pennsylvania School Journal, The British Journal of Dental Science, The Dental Practitioner and Advertiser, The Dental Journal (University of Michigan), Skandinaviska Tandläkareföreningens Tidskrift, Ash and Son's Quarterly Circular, The International Dental Journal, The Birmingham Medical Review, The Dental Record, The Ohio Dental Journal, The Dental Digest, Guy's Hospital Gazette.

Letters and other Communications received from :—

R. F. H. King ; J. H. Milnes ; I. Renshaw (three enclosures) ; A. B. Wolfenden ; S. W. Hepworth Dixon ; Jos. A. Wood ; T. E. Constant ; E. R. Gay ; J. A. Fothergill ; Hon. Sec. Midland Branch ; James C. Douglas ; C. S. Prideaux.

Note.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL

OF THE

BRITISH DENTAL ASSOCIATION

A

MONTHLY REVIEW OF DENTAL SURGERY.

No. 6. JUNE 15, 1896. Vol. XVII.

Regina *versus* Priestley.*

THE case of Regina *versus* Priestley, tried before the Leeds Assizes, brings into such a glaring light the inefficiency of the existing machinery of the law for the protection of the public from unskilled and unregistered medical aid, that it deserves, nay, requires, the careful consideration of all who are able in any way to influence the amending of the existing statutes.

It may be assumed that Mr. Justice Wright interpreted the existing law correctly, and that, as the law stands, the jury were right in their verdict. Assuming these things, what are we to say for a law which permits and sanctions an unregistered person to administer a dangerous anæsthetic under conditions certain to materially increase its dangers, and without the precautions which are universally admitted by all who have the slightest knowledge of anæsthetisation to be absolutely essential to safety. The percentage of deaths during the administration of chloroform is about ten times greater than that of ether, and certainly a hundred times greater than that of nitrous oxide, even when every precaution is employed, and trained and qualified administrators in charge of the case; but there are certain recognised precautions without which the dangers are wantonly multiplied many times over. To enumerate a few—the sitting position renders death by stoppage of the heart's action infinitely more probable; a full stomach, by increasing the likelihood of vomiting, creates a new danger, namely, the sudden mechanical blocking of the air passages, and constriction of the clothing over the thorax or abdomen by impeding respiration adds to the danger; again, there are conditions of the thoracic organs which, if known to a careful practitioner, would deter him from using chloroform and incline him to the choice of ether, nitrous oxide, or some other non-depressent drug. Therefore, as was fully testified by experts in the above case, when chloroform is administered it should be in the recumbent position on an empty stomach, with all restrictions upon the circulation carefully removed, and after an examination of the chest.

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* Among the Abstracts in this issue will be found an admirable leader dealing with this question which appeared in a recent issue of the *Times*.

In the case under notice an unregistered practitioner administered the drug to a servant girl in the sitting position on a full stomach, without loosening the clothing or examining the chest. The jury had to consider whether Priestley had used "due care," whether he administered what he "knew or ought to have known" was a dangerous drug without employing such precautions as he knew or ought to have known were necessary; whether he was guilty of criminal negligence "in using chloroform when he did not know more about it." The judge advised the jury that if there were a substantial doubt the prisoner ought to have the benefit of it, and the jury acquitted him. There can be no substantial or even shadowy doubt that such things should not be allowed to continue to be possible. It is time that the law was amended, so that persons who are unable to judge for themselves of the capabilities of practitioners should have some legal protection from such dangers as those remarked above.

The public are stringently protected from purchasing food that is adulterated, or foreign made goods without the legend that stamps the place of their manufacture. Is it not at least as urgent that they should be guarded from the medical and surgical attentions of unskilled or unqualified practitioners, so that they may not be permitted to place their lives in jeopardy without their eyes being fully opened to the risks which they run? Meanwhile it would not be amiss, if we may say so without disrespect, if magistrates were to do what they could to prevent the existing laws from becoming a dead letter. The facts of this case are so strong that no comment can make them stronger, and we trust that the fruit that they will bear will be in the form of some stronger legislative restrictions imposed upon unlicensed practitioners, and the consequent protection of the lives of Her Majesty's lieges.

PAPERS AND DEMONSTRATIONS AT THE ANNUAL GENERAL MEETING.

THE Hon. Sec. of the Association will be pleased to hear from any members wishing to read papers or give demonstrations at the forthcoming Annual General Meeting.

The Annual General Meeting.

ALTHOUGH the exact details of the forthcoming Annual General Meeting, to be held on August 12, 13, 14, 15, are not quite complete, they are, nevertheless, advanced enough to foreshadow a most successful gathering.

The place of meeting, as in 1891, will be the Examination Hall on the Victoria Embankment, the building having once again been generously placed at the disposal of the Executive by the Board of Managers of the conjoint colleges. Members who were present at the gathering of 1891 will readily recall how excellent is the building for the purposes of our meeting.

The theatre, which is spacious, is well adapted for the work of the General Meetings, and contains a splendid lantern for exhibiting photo-micrographs. The remaining rooms at the disposal of the Association are large and lofty, and exceptionally well fitted for use by the various sections. Beyond, however, the accommodation which it presents, the Examination Hall possesses the advantage of being situated in the most central part of the metropolis, and in close proximity to the Hotel Metropole, which will again be the social headquarters of the Association during the meeting.

The number and quality of the papers and demonstrations promise well, and a full list will be published in a future issue. It is to be hoped that the papers will have due time allotted to them to be properly discussed, and thus repay those whose time has been spent in preparing them, and it is also to be hoped that the discussions may be crisp and practical, so that when the work of the meeting is summed up, we may have a valuable record to show.

The leading dental depôts will contribute a display of instruments and new apparatus, and from all we can gather the exhibition bids fair to surpass in value and completeness that of previous years.

The social programme of the meeting is also well advanced, and we feel certain that the London men will do all in their power to give their provincial brethren a hearty good welcome, and so try in some small way to repay them for their hospitality during the last four years.

Last, but by no means least, a word is due in connection with the new President, Mr. Canton. That he is qualified for the post is well known to every one, and his past services as Hon. Secretary and Treasurer and President of the Representative Board have been the means of giving him a clear insight into the working of the Association, and so fitted him in an exceptional manner for the post he is in the near future to occupy, and under his guidance a successful meeting may certainly be anticipated.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

Southern Counties Branch.

THIS Branch held their usual Demonstration Meeting at Brighton on April 18th, before a large attendance, including Dr. J. Walker, President; Messrs. J. H. Whatford, Vice-President; J. H. Redman, President-elect; H. Beadnell Gill (Norwood); Morgan Hughes and B. A. Williams (Croydon); J. H. Reinhardt, Stephen Hoole (London); Chas. Foran (Southsea); J. C. Foran and W. Barton (Eastbourne); G. O. Richards (Richmond); J. Dennant, W. Harrison, D. E. Caush, C. B. Stoner, John Wood, T. H. Elliott, W. R. Wood, and F. V. Richardson (Brighton); Leslie Maxwell, A. R. Henry (Hastings); F. H. Ellwood (Redhill); A. E. Anderson (Maidstone); Arthur King (Guildford); and others.

Mr. Morgan Hughes, M.R.C.S., L.D.S.Eng., inserted a large gold filling in a first left upper molar, starting it with "cement" in which was embedded a large piece of de Trey's "Solila" gold, then building the tooth up with "Solila" and finishing with gold foil. Mr. Hughes used both "hand pressure" and the mallet.

Mr. T. H. Elliott, L.D.S.Glas., demonstrated a porcelain crown with gold cap in the following manner, taking about an hour and a-half.

The tooth, a right upper lateral incisor, was cut down almost level with the gum, trimmed, and the circumference ascertained by means of silver suture wire twisted round the root. A narrow strip of gold, No. 4 Ash's gauge, was bent round and soldered to form a band, carefully fitted to the root and cut down very narrow in front, being well pressed up under the gum. It was then removed, and a top of slightly thinner gold soldered to it to form a cap. The root canal having been enlarged with a pin sized drill, the cap was replaced in position and burnished over root, thus indicating position of canal as a guide for the drill in piercing the gold to receive the pin. The pin, a piece of tube pin wire, was fitted in the root to the required length, marked with an instrument at its junction with the gold, and then withdrawn; the cap was next removed, and the pin waxed to it, the length indicated by mark and soldered.

The perpendicular of the pin is not of so much importance at this stage, as the gold top being comparatively soft, it will assume the right direction when forced into position.

The surface of root being finally trimmed level with the gum, the cap was placed into position by grasping with pliers that portion of the pin which projected from outside the cap, and pressing well home.

A plaster impression was taken with the cap *in situ*, removed, and the cap placed into position in the impression. This was cast, a little coloured soap lather being used to prevent adhesion, and when set, taken off by removing small pieces of the plaster, until the coloured portion was exposed. The cap now occupied the exact position on the plaster model, as it did in the mouth, and was not removed until the crown was finished, the tooth being backed, fitted, and soldered, on the model, the latter being nearly all cut away except the two teeth adjoining the artificial one; a little plaster was run over the latter, and the two plaster teeth dried, heated up, and soldered in the usual way.

The members dined together afterwards, when £3 3s. was collected for the Benevolent Fund.

The Annual Meeting will be held at the Town Hall, Maidstone, on Saturday, June 20, 1896. President: Dr. J. Walker (London); President-elect: J. H. Redman, Esq. (Brighton).

11.30 a.m.—Council Meeting.

12 a.m.—Annual Meeting.—Council's Report, 1895-6. Honorary

Treasurer's Report. Alteration of Bye-Laws. Valedictory Address by Dr. Walker. Inaugural Address by Mr. J. H. Redman. Election of Officers and Council. Paper: "The Advisability of Branches conducting their own Prosecutions in cases of alleged infringement of the Dentists Act, 1878," by Mr. H. Beadnell Gill.

2 p.m.—Hot luncheon (an early dinner). The President kindly invites the Members to lunch with him at the Mitre Hotel; also at

3.15 p.m.—To an Excursion to Leeds Castle.

Nominations for the Council must be forwarded to the Hon. Sec. before June 16.

The retiring Councillors, Messrs. M. Henry, S. Hoole and L. Read, are ineligible for re-election.

Members are reminded that the subscription for the year became due on January 1.

FRANK V. RICHARDSON, *Hon. Sec.*

1, *Sillwood Road*, *Brighton.*

On the recommendation of the Council the following alterations in the Bye-laws will be proposed, viz., that Bye-laws 2 and 3 shall read as follows:—

(2) "The Branch shall consist of Members, Honorary Members, and Associates. No one shall be eligible for Membership who is not already a Member of the British Dental Association. Any registered practitioner of good character, who does not conduct his practice by means of the exhibition of dental specimens, appliances, or apparatus in an open shop or in a window; or in a show case exposed to public inspection; or by means of public advertisements, *circulars*, or notices, describing *his qualifications*, *appointments*, scale of charges, modes of practice, or patented or secret processes may be elected a Member or an Associate, &c.

(3) "Any Member of the British Dental Association *who is not disqualified by Bye-law* 2, may be elected a Member of the Branch by the Council of the Branch on his sending a written application for election to the Hon. Secretary of the Branch. The names of Candidates shall be received for membership at any Meeting, and submitted for election at the ensuing meeting. Two black balls shall invalidate an election."

Western Counties Branch.

A COUNCIL meeting of the above Branch was held at the Bedford Hotel, Tavistock, on Saturday, May 9, 1896, at 3 p.m., the President, Mr. J. J. H. SANDERS, in the chair. Also present: Messrs. J. T. Browne-Mason, T. Taylor Genge, E. L. Dudley, H. B. Mason, G. Thomson, E. Goodman, W. A. Hunt, J. Laws, E. Brown, A. H. Mountford and T. A. Goard.

Letters regretting absence were received from Messrs. Rogers, Oliver, Kendrick, MacAdam, Helyar, Apperly and Robertson.

The minutes of the last meeting were read and confirmed, and also those of the special meetings.

It was resolved to hold the Annual Meeting at Clifton on Friday and Saturday, July 24 and 25, and that the arrangements for the meeting be left in the hands of the President-elect (Mr. T. Taylor Genge) and the Hon. Secretary.

It was also resolved that Mr. H. B. Mason be invited to allow himself to be nominated for the Presidency of the meeting proposed to be held in Exeter in 1897.

The HON. TREASURER reported that there were several members still in arrears for the year, but hoped they would soon send their subscriptions.

A letter of resignation was read from Mr. Balkwill. The Hon. Secretary was instructed to write and express great regret at the severance of old ties, and to thank him for the long and valuable service he had rendered the Branch from its commencement.

The Council then agreed to propose at the Annual Meeting of members that the following bye-law be added to the bye-laws of the Branch :—"A special meeting of the Branch may be called at any time by the Executive Committee, not less than fourteen days' notice being given to every member. No business shall be transacted at such meetings which has not been certified in the agenda."

Mr. RUPERT WHEATLEY, M.R.C.S., L.R.C.P., L.D.S., was elected a member of the Association and Branch.

Mr. JAMES PETHERBRIDGE, L.D.S.Eng., was elected a member of the Branch.

An informal meeting for members was held at four o'clock, and in addition to the members of the Council, Messrs. W. H. Goodman and H. E. Bullen were present.

Mr. E. GOODMAN (Taunton) showed a model of a mouth of a patient, aged 78, who had erupted two canines beneath a denture worn for thirty years. He also showed a right upper second bicuspid which was erupted in the middle of the hard palate at the age of 45. She was wearing a plate with a hole for the tooth, and she refused to have it removed.

Mr. E. BROWN (Barnstaple) exhibited a most abnormally large left upper central incisor.

Mr. W. H. GOODMAN (Exeter) showed the model of a supernumerary situated by the side of the left upper second molar. He also showed a dilacerated right upper central incisor which was erupted at 13½ years of age. The root was very dwarfed, and curved nearly at a right angle. There was no history of a blow or injury.

Mr. GOARD (Exeter) showed a model of an abnormally situated right upper second bicuspid. It was being erupted on the outer side of the alveolus and about half an-inch above the alveolar ridge.

It is proposed to hold the Annual Meeting of the Western Branch at Clifton, Bristol, on Friday and Saturday, July 24 and 25, 1896.

The programme, as arranged so far, is as follows :—

Friday, 9.30 a.m.—Council Meeting at University College.

11 a.m.—General Meeting. President's Address. Paper on "Immediate Root Filling," by C. A. Hayman, M.D., L.R.C.P. and S.I., L.D.S.Eng. ; paper on "Our Plan of Campaign," by J. C. Oliver, L.D.S.Eng.

2 p.m.—Luncheon at the President's residence to the Members and friends.

3 p.m.—Demonstrations :—"Method of making Downie Crowns," by the President ; "A Modified Collar Crown applicable to Superior Incisors and Bicuspids," by G. Thompson, L.D.S.Eng. ; "Taking Impressions of Difficult Cases in Plaster of Paris," by W. A. Hunt, M.R.C.S., L.R.C.P. ; "Büttner's Method of Pivoting," by W. H. Goodman, L.D.S.Eng.

Saturday.—Coach excursion to Clevedon ; luncheon at Coulton Park Hotel. Headquarters : Clifton Down Hotel.

T. ARTHUR GOARD, *Hon. Sec.*

Midland Counties Branch.

THE Sixteenth Annual General Meeting of the Members will be held at Sheffield on Friday, June 26 ; the programme is as follows :—

Thursday evening, *June* 25.—Council Meeting at the Wharncliffe Hotel, King Street, at 8 p.m. Informal gathering at the Wharncliffe Hotel, King Street, at 9 o'clock. Music, &c.

Friday, *June* 26, 10.45 a.m.—Business Meeting (Members only) in the Lecture Hall, Firth College.

12.15 p.m.—President's Valedictory Address, by Mr. J. C. Storey, L.D.S. ; open to Visitors. President's Inaugural Address, by Mr. Frank Harrison, M.R.C.S., L.D.S.

1 p.m.—Adjournment. The President invites the Members and their friends to lunch at the Masonic Hall, Surrey Street (carriages will be provided to convey Members from the Masonic Hall to the Sheffield Royal Hospital).

2.30 p.m.—Demonstrations at the Royal Hospital. The following gentlemen have kindly promised to demonstrate :—Mr. J. C. Storey, L.D.S., on "Impression Taking ;" Mr. I. Renshaw, L.D.S., on the "Making of Seamless Gold Crowns ;" Mr. J. C. Birch, L.D.S., on "Dr. de Trey's Solila Gold ;" Mr. Catt, L.D.S., on the "Treatment of Putrescent Pulp Canals with Kalium Natrium ;" Mr. R. C. Heaton-Drabble, L.D.S., on the "Advantages of Husband's Pluggers in Gold Filling ;" Mr. W. E. Harding, L.D.S., will show the working of a Downie Furnace.

4 p.m.—Discussion on demonstrations.

7 p.m.—Dinner at the Masonic Hall; tickets 7s. 6d. each (exclusive of wine).

Saturday, *June* 27.—An excursion will be arranged to the Dukeries. The party will leave the Victoria Station, Sheffield, at 9.33 a.m. for Worksop, where carriages will meet the train and convey the party through Clumber Park, Thoresby, Sherwood Forest and Welbeck, returning to Worksop Station in time to catch the 4.24 train, arriving at Sheffield at 4.55. Tickets 7s. 6d. (including lunch).

It will be necessary for Members to return their reply post-cards promptly, in order that adequate arrangements may be made.

I. Renshaw, *Hon. Sec.*

87, *Drake Street*, *Rochdale.*

Eastern Counties Branch.

The Annual General Meeting will be held at the White Horse Hotel, Ipswich, on Saturday, June 27, the President, Mr. R. P. Lennox, in the chair; President-elect, Mr. W. A. Rhodes.

Meeting for the transaction of business only, at 4.30 p.m.

6.30 p.m.—Informal dinner (morning dress), to which the President-elect invites all attending the meeting.

The following are the arrangements made for the Amsterdam meeting:—

Trains will leave Ipswich for Harwich at 8.52 p.m., Liverpool Street at 8.30 p.m., in time to meet the boat.

Sunday, 10 a.m.—Reception of the members of the British Dental Association in "Krasnapolsky."

11 a.m.—Drive through the city.

1 p.m.—Luncheon and steamboat excursion on Amstel and Y.

6.30 p.m.—Dinner (morning dress). The English visitors will be the guests of their Dutch brethren both at luncheon and dinner.

Monday, 9.30 a.m.—Meeting for the reading and discussion of papers, &c. All papers and proceedings will be in the English language. (1) Mr. R. P. Lennox on "Some Methods in Mechanical Dentistry, including the making of an Articulator, Base-plate and Counter-die, and the taking of an Impression for a Dowel crown." (2) Dr. Herbst: Demonstrations. (3) Dr. C. Witthaus on "Left Cutting Burs." (4) Dr. C. Van der Hoeven on "Premature Extraction of Temporary Canines." (5) Mr. A. Hopewell Smith, L.R.C.P., M.R.C.S., L.D.S.Eng., on "The Patho-Histology of the Dental Tissues," illustrated by lantern slides. (6) Dr. John E. Grevers on "Immediate Regulation," illustrated by lantern slides. (7) Mr. G. Cunningham, M.A.Cantab., L.D.S.Eng., D.M.D.Harvard on "The Institute of Dental Technology, its aims and objects as a School of Mechanical Dentistry."

Tuesday.—The Dutch Societies will continue their proceedings at Utrecht, which will consist of demonstrations only. English visitors who care to stay will be warmly welcomed.

9.30 a.m.—Bridge work (on patient), Dr. Herbst.

2 p.m.—" Immediate Regulation," Mr. B. Frank.

3 p.m.—" The Galvano-plastic Plate for Dentures," Mr. A. A. H. Hamer.

4 p.m.—Demonstration by Drs. Becht and Van der Hoeven, " Nitrous Oxide and Oxygen."

The Continental Traffic Manager writes :—" If twenty persons can be got together I could arrange to make the tickets available either from London, or any Great Eastern Station except Peterborough, and I would also give permission for the journey to be broken at Ipswich. The fares would be, first class, £2 6s. 4d., and £2 0s. 8d. second class rail from London, or third class from country stations to Harwich, first class on steamer and second class on the Continent, under the conditions that you take and pay for the whole of the tickets, and that the party travel together out and home, and that no free luggage is allowed besides what can be conveniently taken in the compartments with them."

In order to obtain a reduction of the first class return fare to Holland, it is necessary that at least twenty applications for tickets should be made to the Hon. Secretary by Monday, June 22.

Hotel, " Krasnapolsky," where rooms will be reserved for those who signify their intention of going to Amsterdam.

Our Dutch brethren wish it to be known that they will heartily welcome any member of the British Dental Association who may wish to attend the meeting at Amsterdam.

W. A. RHODES, L.D.S.I.
Hon. Sec.

3, *Silver Street,*
Cambridge.

Central Counties Branch.

THE Annual Meeting of the Branch will be held at Oxford on Saturday, July 11, under the Presidency of Mr. F. E. Huxley.

The General Meeting will take place in one of the lecture rooms of the University Museum at 11.30, when after the formal business and address from the President, a paper and demonstration on "The New Photography" will be given by Messrs. Buckbeck Hill and J. H. McLean of Oxford.

Casual Communications will be received.

Luncheon will be served at 1.15, after which the Members will proceed in a steam launch down the Thames to Neunham, returning to Oxford for the Annual Dinner, which will be held at "The Roebuck Hotel" at 6 o'clock (tickets, 6s. 6d. without wine), giving

Members from a distance time to catch the train leaving Oxford at 8.30.

The President kindly invites Members to luncheon, and to the Excursion on the river.

This programme is subject to alteration as may be found necessary.

A. E. DONAGAN, *Hon. Sec.*

7, *Newhall Street*, *Birmingham.*

Original Communications.

A Case of Persistent Periostitis treated by Replantation.*

By A. E. BAKER, L.R.C.P., M.R.C.S., L.D.S.

THE following report of a case illustrating the treatment of local periodontitis by means of the extraction and subsequent replantation of the affected tooth may prove of some interest.

The idea of replantation is by no means a new one; but one method was brought forward by Mr. H. Lloyd Farebrother at the meeting held at Salisbury in June last, who claims to have obtained much success by its employment. Mr. Farebrother's suggestions have been carried out in this case with the best of results up to the present time.

The details of the whole course of treatment are as follows. In May last I was asked to see the patient at Guy's Hospital by Mr. Tasker, one of my dressers. He gave a history of having, in January 1895, made a traumatic exposure of the pulp in the right upper central incisor, mesial cavity. The exposure was capped with sterilised court plaster, and the cavity filled with an osteo filling. The patient returned on May 14 with the tooth discoloured and somewhat loose, the gum above congested, and an external sinus opening on it, in fact all the signs of a chronic alveolar abscess. She complained of slight pain during mastication, this pain was intensified by pressure applied, especially in one direction. The pulp chamber was opened from the lingual surface of the tooth, dead pulp and *débris* removed, dressings of perchloride and tannin inserted, covered by temporary gutta percha.

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* A paper read before the meeting of the Southern Counties Branch, January, 1896.

On May 21 no relief had been obtained from the preceding treatment, and on withdrawing the root dressings an offensive purulent fluid exuded. Peroxide of hydrogen treatment was then adopted. This, in my hands, usually gives excellent results, but in this case we were unable after an hour's hard work to get any material cessation of the effervescence so characteristic of the peroxide coming in contact with albuminous fluid. I say albuminous in contradistinction to septic, as this effervescence can be obtained by the peroxide touching the mucous membrane of the gums or freshly drawn blood. We endeavoured very persistently to pump the peroxide through the apical foramen with such force as to make the fluid issue through the external sinus. However, time failing us, we thoroughly dried the tooth with the hot blast, and pressed up a root filling of gutta percha and iodoform. In June there was little improvement, the pain on pressure and during mastication still being experienced, the gum over the apex congested and tender on pressure. The patient who during this time was having other teeth treated as well, was put on a course of aconite and iodine applications to the gum for about a fortnight, but with no favourable result whatever. On July 8, I adopted the following method which I have occasionally found very useful in similar cases. Having noted the external orifice of the sinus I lanced through it and the gum to the alveolus, over where I judged the apex of the root to be, drilled through the external alveolar plate and endeavoured to remove with the bur, the apex and with it the thickened chronically inflamed pericementum. Strict antiseptic precautions were taken and the wound packed with lint so as to allow of granulation taking place from the bottom of the cavity. This wound healed well, and the neighbouring congestion was much less. The pain however, was nearly, if not quite, as severe as before.

Therefore on July 30, having first of all obtained the patient's consent, I applied hydrochlorate of cocaine to the gum, and removed the tooth with forceps, using a rotary motion; great care was taken not to damage the alveolar borders or walls in any way. On examining the root, which was longer than I had anticipated, absorption was found to have progressed to some extent at the apex, sufficiently to cause a sharp point. The bur marks due to the preceding operation were seen to be at one side of the root, having missed the apex by about one-eighth of an inch. A piece of modelling wax was fixed in a small glass receptacle, the tooth inserted and the crown forced into this. Warm wax was now dropped from a stick all over the root with the exception of its apical extremity, the object of this procedure being to preserve the pericementum from injury. The sharp apex was then removed with cutting pliers, and the extremity carefully smoothed and rounded by a fine gold file. The root canal and pulp chamber were then opened afresh, but this time from the apical end. The old root filling which near the apex was discoloured and offensive, was removed and a new one of gutta percha inserted. This was packed in very tightly, the end left protruding and smoothed off with chloroform. In the meantime, the hæmorrhage having been arrested by a pledget of aseptic cotton, a constant stream of sterilizing fluid was pumped into the socket by my assistant. The lingual surface of the crown was now exposed and a fresh filling of osteo inserted here as an additional security. The wax, which peels away very easily, was then removed and the tooth replaced in its alveolus and pressed well home. It was secured in position by a small dental alloy splint (which had been previously prepared) lined with soft gutta percha and bound tightly to the neighbouring lateral and canine teeth by binding wire. This precaution was adopted to counteract any tendency towards lengthening.

I find that the patient wore the splint until nearly the end of August, without any inconvenience.

In another case, I think it would be as well to remove it after a week's wear and instead of using a metal splint, to have a rather larger one of vulcanite made, and thus obviate the necessity of tying in, &c.

From the date of the operation to the present time the patient has been perfectly comfortable. The tooth has remained firm the whole time, and has not given the slightest trouble whatever.

On October 24, a very tiny spicule of alveolus was seen to be protruding through the gum nearly opposite the apical extremity of the tooth and was removed. This possibly was splintered at the time of drilling through the outer wall of the socket, or possibly was a slight necrosis from the apical space caused by the inflammatory process itself. I do not think it was in any way due to the extraction.

The patient is now present and quite willing for the company to inspect her mouth. You will notice, sir, that the left upper central root has been crowned.

Just lately Mr. Tasker has been treating the crown with bleaching agents to restore its colour. The agents used were chlorine evolved from chloride of aluminium moistened with peroxide of hydrogen. This supplemented by the hot blast and an oxychloride filling which gives a lighter appearance than oxyphosphate, and a gold plug finishes the whole.

I am sorry, gentlemen, that I only have this solitary case to bring before you, but as it is now about six months since the operation was done, I thought it might interest you; possibly at a future date I may have others to bring forward, though I do not anticipate a very great frequency of them. It certainly seems a plan that might with advantage be adopted more often than it is *when all other methods* of treatment have failed.

So frequently we hear from patients the history of chronic local periodontitis. The abscess, which may or may not have been acute in its first stages, has drilled its way through the outer alveolar plate and the gum; has discharged its contents into the mouth and subsided, leaving the sinus and its external opening. From time to time, generally marking the advent of a cold or some other slight indisposition, the orifice gets closed and a small swelling appears; there is a certain amount of tenderness and local discomfort, the patient to obtain relief, presses the swelling with the finger, the pus is discharged into the mouth, and probably some of it swallowed. This is by no means an ideal state of things for us as dental surgeons, and although it may and does very frequently go on for years, I have, on more occasions than one, noted this condition to obtain after the roots of the teeth have been conscientiously dressed and filled. Even supposing there should be no swelling making its periodical reappearance, it seems to me that so long as the sinus is patent, so long must there be a continual discharge of unhealthy purulent fluid into the mouth; this is swallowed, no doubt, and exercises, even if in only a slight degree, a deleterious action on the system. I consider this a point to which we should call the attention of our medical colleagues, and seek their assistance in determining to what degree slightly suppurating devitalised teeth may tend towards lowering that state of equilibrium of the body forces which we term health. Perhaps, too, they would not take it in bad part, if we suggest to them, that in treating disorders of the digestive tract, which we know constitute a considerable proportion of medical practice, they would start where the first process of digestion takes place, viz., the mouth, taking every care to have it put into thoroughly good order and so eliminate the oral cavity from being even in the slightest degree the cause of dyspepsia or allied ailments.

We all know that it is the first axiom in treating surgical complaints to remove the cause where possible. Hence to get rid of the chronic periostitis and sinus we must remove the irritant which occasion their presence. Therefore I feel inclined to welcome this little operation in suitable cases.

But I should only recommend it after the other methods which involve less risk of the loss of the tooth have been successively tried, viz. :—

(1) By immediate root fillings, using peroxide of hydrogen, sulphuric acid or sulphuric ether.

(2) By gradual root treatment, repeated dressings, &c., with or without depletion, counter irritants, &c.

(3) By drilling down to the apex of the periostitic root through the alveolus.

The operation is evidently contraindicted (1) where absorption of the alveoli has taken place. (2) In hæmophilia, myxœdema or other constitutional complaint which would prevent an ordinary extraction being advisable. (3) Naturally where the patient is averse to the treatment or only gives a half consent. (4) Where the crown is much broken down and weakened by a large carious cavity.

I much regret not having had any experience with molars. It is not every patient who, having had a large tooth extracted, will consent to its subsequent replantation. Mr. Farebrother I believe, has had good success with them. It seems to me that one should hesitate more before extracting molars, as there is always more risk of fracturing a small portion of the alveolus, or the extremity of one of the roots, where these are curved. Also we should always bear in mind that the extraction of a dead tooth, where the pulp chamber has been laid open and made continuous with the crown cavity is not so certainly a successful procedure as when a tooth has not been weakened by the loss of what I may term the coronal arch covering in the pulp chamber.

If replantation after apical excision becomes to any extent general as applied to cases like the present one, is it too much to ask whether it may not be taken a step further and be performed for those cases of dental exostosis which have hitherto baffled all treatment save extraction?

In this disease there is still an abnormal condition of the alveolo-dental membrane, but organisation and deposit of fresh cementum takes place, instead of suppuration and absorption. Now whereas organisation stands in a higher grade than suppuration, cases of exostosis should be more favourable to treat than cases of persistent periodontitis caused by chronic abscesses.

I should not propose operating where it is suspected there is much hypertrophy, but where the deposit is somewhat slight, and all the symptoms point to its being the origin of the pain and periostitis. The difficulty of extraction might be urged against its adoption, but when the tooth is once out of its socket the chances are that it can be replaced. Instead of the apices being cut off, only those nodules of exostosis with the membrane covering them might be removed; where they extended much towards the neck of the tooth, too much injury might be done to the peridental membrane as a whole to hope for any success.

The New Photography and its Application to Dental Practice.

By FRANK HARRISON, M.R.C.S.Eng., L.D.S.Edin., Sheffield.

The *x* rays have already proved of practical advantage in surgery, and they also promise to be of still greater use in dentistry—indeed the methods only want simplifying to enable the dentist to observe in his patient what was only possible a short time ago in the dead subject.

The genesis of the teeth, the construction of artificial crowns, the anomalies of roots, the difficult eruption of wisdom teeth, and many other conditions of organs which are enveloped in tissue opaque under ordinary conditions, become visible by the illuminations of the *x* rays.

The following photographs, taken with a Newton's tube, serve to show some of the possibilities, and I hope in a short time to be able to produce photos showing much more detail in structure and other varied conditions. I am constructing a cryptoscope for dental use, by which means the investigations will be able to be equally well carried on without the aid of photography; this I hope to be able to show in working at the Sheffield meeting. The methods and the different productions of images by the new *x* rays I intend giving at length in my address at the above meeting on the 26th inst.

Legal Intelligence.

Action to Recover Fees.

HEAPHY *v.* TARR.

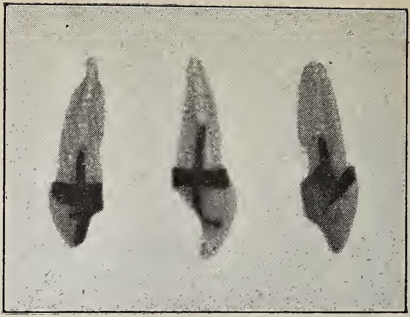
THIS was an action by Mr. G. E. Heaphy, a dentist, practising at Hastings, against Mr. William Henry Tarr, accountant's clerk, to recover £27, the balance of an account amounting to £42, for making a set of artificial teeth for a Miss Nesbitt to the defendant's order. The defendant was formerly Miss Nesbitt's trustee under a settlement. Mr. Lewis Glyn and Mr. Herbert Jacobs (instructed by Dr. Goodwin) were counsel for the plaintiff, and Mr. Drury (instructed by Mr. Letchford) appeared for the defendant.

The defendant, it was said, had, in his capacity of trustee, given his sanction to the plaintiff extracting Miss Nesbitt's teeth, and making for her an artificial set. The plaintiff had made seven visits to the lady in London, and she had attended at his surgery at Hastings. Gas and chloroform had to be administered in the course of the extraction, and the plaintiff said his charge of 40 guineas, which had been agreed, was a fair and reasonable one.

Mr. R. D. PEDLEY, dental surgeon, corroborated the plaintiff's statement as to the charge being a reasonable one.

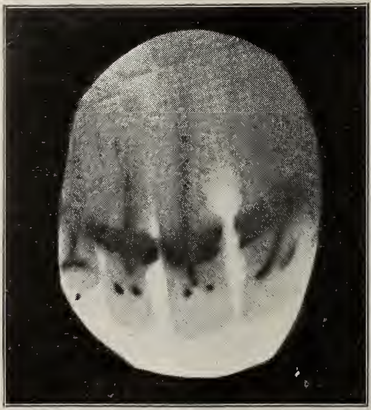
It was stated, on behalf of the plaintiff, that application had been made by the defendant and his co-trustee for an order for payment out of the trust funds of £75, prior to the services being rendered, which application was granted; but, notwithstanding that, the defendant had only paid £15 on account, and, as he refused to pay the balance, this action was brought. The teeth had not yet been delivered.

Dry Specimens.



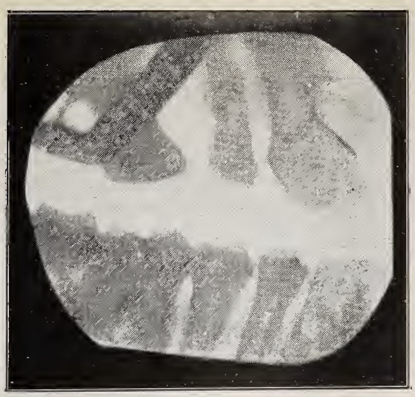
(1) The centre one is the left upper lateral incisor; the root is fitted with "Downie" crown. The two outer ones are the right upper central and lateral incisors, fitted with gold "Richmond" crowns.

Taken from Life.



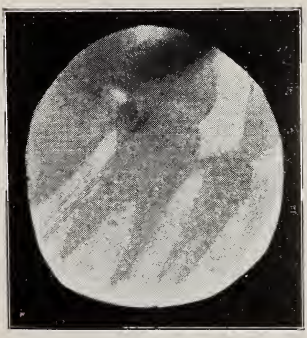
(2) Right upper central and lateral incisors, fitted with "Downie" crowns. Ten minutes' exposure.

FROM LIFE



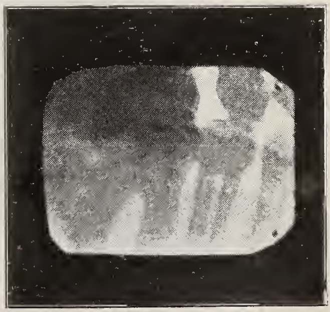
(3) Right upper and lower jaws. In the upper jaw a narrow alloy denture is seen carrying second molar. Ten minutes.

FROM LIFE.



(4) Right lower second bicuspid and first molar, with two amalgam crown plugs. Mouth closed. Ten minutes.

FROM LIFE.



(5) Right lower second bicuspid, showing more detail. Ten minutes.

The DEFENDANT denied that he agreed to pay a sum of 40 guineas for the teeth, and said that no money was ever obtained under the order of the Court of Chancery in consequence of his co-trustee's death and of the coming of age of Miss Nesbitt.

Mr. DRURY further argued that the defendant was not liable because, as was admitted, his co-trustee was not a party to the agreement even if it were made. He raised a number of other legal points, one being that under the statute of frauds the order ought to have been in writing.

The learned Judge allowed the case to go to the jury, however, and, in the result, a verdict was returned for the plaintiff for the amount claimed.—*The City Press.*

Action to Recover Fees.

HARRISON *v.* KENWORTHY.

HIS Honour Judge Waddy, Q.C., on May 21 made the final order in a long standing case. Several months ago, Mr. Frank Harrison, surgeon dentist, Glossop Road, sued Mrs. K. Kenworthy, of 183, Kensington Terrace, Oakbrook Road, a widow, to recover the sum of 13 guineas, the price of a set of artificial teeth supplied last November. The action was heard by Judge Ellison.

From the opening statement of counsel and evidence of witnesses, it appeared that on her visits to plaintiff's house defendant was attended to by Mr. Allen, Mr. Harrison's assistant. A set of teeth was made for defendant, but when the teeth were supplied defendant refused to have them, on the ground that they pained her, and that she could not wear them. She also declined to pay plaintiff's charges.

Plaintiff contended that the teeth fitted properly, and that defendant did not wear them long enough to enable them to be adapted to her mouth and the irritation to pass away. Witnesses on both sides having been called, his Honour suggested, as the point was a difficult one for him to decide, that the suitability of the teeth should be decided by two disinterested dentists. The advocates on both sides agreed to this, and the case was adjourned for this examination to be made.

Judge Waddy was now informed that the one dentist to whom the case was, by mutual consent, referred, had reported that the teeth were satisfactory and suitable, and in accordance with the understanding between the parties' solicitors, he therefore gave judgment for the plaintiff for the amount claimed.

Mr. C. Robinson appeared for plaintiff and Mr. W. E. Clegg for defendant.—*The Sheffield Daily Telegraph.*

Prosecutions under the Dentists Act.

At Newport Borough Police Court, May 22—before Messrs. H. Phillips, F. Phillips, and J. S. Stone, magistrates—two cases were dealt with under the Dentists Registration Act.

In the first case, Walter Frederick Joll, manager for Messrs. Goodman and Co., 28, High Street, Newport, was summoned for not being a legally qualified practitioner, and not being registered under the Dentists Act, did unlawfully take or use the name, title, addition or description of dentist.

Mr. L. H. Hornby, solicitor, appeared to prosecute, and Mr. C. A. H. Black, barrister, of London, appeared for the defendant, and pleaded guilty on his behalf.

Mr. Hornby explained that the prosecution was taken under Section 3 of the Dentists Act of 1878. On the 13th inst., witnesses called at Messrs. Goodman and Co.'s establishment in High Street and saw the defendant, who made an examination, and in answer to a question he said that he was a dentist.

Mr. Black promised that the offence should not be repeated, and the Bench fined defendant 40s., including costs.—*South Wales Daily News.*

Moses Abel, of Hope Cottage, Commercial Road, appeared to answer a similar charge. Mr. Hornby again appeared to prosecute, and Mr. C. J. Jackson, barrister, represented the defendant.

Frank Augustus Ayliffe, dentist's assistant, called on the defendant on Monday last at the request of the Dentists' Association, and defendant examined his teeth. Witness had a conversation with defendant as to his practice and his qualifications. Witness asked if he were a qualified dentist, and defendant said, "I am." He added that he had a tiff with the Medical Council. He had practised with his father, and three days after his father's death he was prosecuted by the Medical Council and fined £3 and costs.

In answer to Mr. Jackson, witness said that defendant did not volunteer anything which would lead witness to infer that defendant was registered as a dentist.

Inspector Coates, who was with the last witness at the time, corroborated.

In answer to Mr. Jackson, witness said that he went with Mr. Ayliffe to defendant's place of business for the purpose of getting defendant to make admissions for the purpose of that prosecution.

Witness, in answer to the Bench, said that defendant said in course of the conversation that he was not registered.

Mr. Jackson contended that there was no case for the defendant to answer, the prosecution having failed to prove that defendant either took or used the title of dentist or dental practitioner. The Bench, however, held the case to be proved, and fined the defendant £5, including costs.—*South Wales Daily News.*

The following is taken from *The Sheffield Daily Telegraph*, dated May 30:—

Mr. L. H. HORNBY, solicitor, asked the magistrates sitting at the Newport Borough Police Court, to make an order to commit Moses Abel, dentist, of Hope Cottage, Commercial Road, to prison, he having failed to pay the fine of £5 and costs, for an infringement of the Dentists Act, which was imposed upon him a week ago.

Warrant Officer COLBORNE said that he went to Mr. Abel's house to serve a distress warrant, but defendant said that he had no money and would not pay, and a woman living in the house produced a receipt which showed that the furniture had been purchased by her.

The magistrates directed the order to be issued forthwith, committing the defendant to prison for twenty-eight days.

Mr. LYNDON MOORE, solicitor, said that an order was made against the defendant at the instance of his wife for non-payment of two weeks' maintenance.

Reports of Societies and other Meetings.

General Medical Council.

June 1, 1896.

Sir RICHARD QUAIN, President, in the Chair.

RESTORATION OF NAMES TO THE DENTISTS' REGISTER.

The REGISTRAR reported that—the prescribed conditions having been duly fulfilled in each case—the names of the undermentioned persons had been restored to the Dentists' Register, from which they had been erased in conformity with the provisions of Section 12 of the Dentists Act (1878):—

Adams, William.
Gay, Daniel.
Marston, Samuel.

REGISTRATION OF STUDENTS—APPLICATIONS TO ANTEDATE.

The following students were allowed to antedate their commencement of professional study, their Preliminary Examination having been fully completed before they commenced:—

Name.	Date of Preliminary Examination.	Date of Commencement of Professional Study.	Date of Registration.	Date to which Student desired to be Antedated.
Blair, Daniel	Oct., '95	Jan. 6, '96	Apr. 13, '96	Jan. 6, '96
Grewcock, William J.	Dec., '93	June 30, '90	June 13, '94	Dec. 1, '93
Griffin, Robert Wm....	June, '95	Sept. 22, '94	Aug. 8, '95	June 1, '95
Henderson, Thomas ...	April, '93	June 14, '94	Mar. 6, '96	June 14, '94
Hodge, Edward H. ...	Dec., '95	April 21, '84	May 30, '96	Dec. 1, '95
Law, William J.........	Jan., '93	June 6, '94	Oct. 3, '95	June 6, '94
McKendrick, Geo. B.	Sept., '93	Oct. 18, '93	Jan. 15, '95	Oct. 18, '93
Millett, Robert Percy	Exempt	July 3, '78	Jan. 16, '96	Jan. 1, '94
Rathbun, Charles J. ...	Exempt	May 1, '73	May 7, '96	May 1, '91
Searle, William R. ...	Dec., '95	Oct. 1, '95	May 11, '96	Dec. 1, '95
Seccombe, Charles W.	Sept., '91	Nov. 9, '95	Apr. 29, '96	Nov. 9, '95
Shearer, Walter C. ...	Mar., '95	Mar. 18, '93	Dec. 6, '95	Mar., '95
Smith, Bernard	Dec., '92	May 1, '90	Feb. 21, '93	Dec., '92
Talbot, Francis	June, '95	Oct. 1, '95	Mar. 11, '96	Oct. 1, '95
Tomarinson, Maurice G.	June, '90	Jan. 31, '93	Dec. 6, '95	Jan. 31, '93
Uttley, Edgar P.	June, '95	Dec. 23, '93	Jan. 23, '96	June 1, '95
Wilkinson, Charles E.	July, '94	Oct. 1, '94	May 8, '96	Oct. 1, '94

June 6, 1896.

Sir RICHARD QUAIN in the Chair.

THE CASE OF CLEMENT HENRY SANDERS.

Mr. Sanders had been summoned to appear before the Council on Saturday, June 6, at 1.30 o'clock p.m., to answer the following charge as formulated by the Council's solicitor :—

"That, being a duly registered Dental Practitioner, you act as cover of and by lending your name and assistance enable an unqualified and unregistered person named Müller to carry on a Dental Practice and to practise Dentistry and Dental Surgery in all respects as if he were a duly qualified Dental Practitioner."

The REGISTRAR read the following Report received from the Dental Committee on the facts in regard to this case :—

The Case of Clement Henry Sanders having been referred to them by the Executive Committee to ascertain the facts in regard to such case, the Dental Committee find the facts to be as follows :—

(*a*) That Clement Henry Sanders was registered in the *Dentists' Register* on August 13, 1884, as having been in practice before July 22, 1878, and his address in the *Dentists' Register* is 88, Queen Street, Exeter.

(*b*) That a practice of Dentistry for gain is carried on at 88, Queen Street, Exeter, in the name of the said Clement Henry Sanders.

(*c*) That Clement Henry Sanders has a Dental Surgery at Okehampton.

(*d*) That Clement Henry Sanders carries on a Dental Practice at Aldershot.

(*e*) That Clement Henry Sanders visits Exeter once every ten days or a fortnight, where he sometimes remains for two or three days at a time; and that the practice at Exeter is carried on in his absence by an unqualified person named Müller.

(*f*) Mr. Sanders gave an undertaking to place a qualified Assistant in charge of the practice at Exeter and Okehampton at once.

Mr. JOHNSTON WATSON appeared for Mr. Sanders, accompanied by a representative of Messrs. Preston, Stow & Preston.

Mr. R. W. TURNER, instructed by Messrs. Bowman & Co., appeared for the British Dental Association, the complainants.

Mr. FARRER, the Council Solicitor, attended to advise the Council on the cases before it, and Mr. MUIR MACKENZIE attended as Legal Assessor.

Mr. JOHNSTON WATSON: I appear for Mr. Sanders. Mr. Sanders is not here; he has made a further affidavit. Possibly the better way would be for me to make a few observations upon the report as it was entered to the General Medical Council, as, of course, you are all aware that report in fact is binding and conclusive, and the facts which are found by the Committee are those facts upon which this Council is asked to act. Now the charge which was preferred against Mr. Sanders was a charge which was called covering——

The PRESIDENT: May I interrupt you? Are you going into the merits of the case?

Mr. WATSON: No; I cannot do that.

The PRESIDENT: Because if you are it may ultimately lead to a very different result from what is here. It would be much more to the point if you could tell us whether Mr. Sanders has carried out the promise he made us at that meeting.

Mr. WATSON: I will with pleasure. He has done so. I must ask your forbearance for one moment. I do not propose occupying the time of the Council at any length. I was going to point out that the charge which was preferred against Mr. Sanders is not the charge which the Committee have found to be proved. I must ask the Council kindly to bear that in mind when they come to deal with the facts. The charge preferred against him was that he permitted an unqualified and unregistered person named Müller to carry on a dental practice, and to practise dentistry and dental surgery in all respects as if he were a duly qualified dental practitioner. Now what the Committee have in fact found is not that that charge is proved, or that the charge is true in fact against him, but they have found that he did carry on himself, which is a different thing to permitting anybody else to do it, a practice at 88, Queen Street, Exeter, and then in subsection (*e*) of the Report that he himself visited Exeter once in every ten days or a fortnight, where he sometimes remained for two or three days at a time, and that the practice at Exeter was carried on in his absence by an unqualified person named Müller. I take it not that the practice was ever carried on by Müller for his own benefit, and therefore he was not sheltered in any way by Mr. Sanders, but that while Mr. Sanders was carrying on his business in Aldershot or somewhere else, as he says he did part of the week, he permitted Müller, his assistant, who was unqualified, to take some part in the business. I do not desire to say anything else on that. I wish to draw your attention to another part of the report. I have here two affidavits, one of which probably has been already before the Council, filed by a page boy, Charles Avery, as to what occurred since the hearing before the Committee. Members of the Committee may remember that I, on the part of Mr. Sanders, who was in the room, gave an undertaking that he would place a qualified assistant in charge of the practice at Exeter and Okehampton at once, and I think I am in a position to satisfy the Council, if any question arises upon it, that he has done so. Of course, whether he did so or whether he did not cannot, I presume, affect his position except if the Council think that the charge of infamous conduct is proved against him when they might desire to know what his conduct has since been for the purpose of giving him indulgence. Otherwise I, of course, do not abandon the contention that there is nothing in the Report which, in the judgment of the Council, can amount to infamous conduct in a professional respect in the finding. Now, then, as to what has occurred, which is only a question of fact. Perhaps I had better refer first of all to an affidavit filed by the page boy, which shows there has been some delay, and, as to that, I have a reason for it. There has no doubt been delay, but Avery, who was an errand boy at Exeter, made an affidavit on May 22, 1896, which reached our hands very shortly afterwards, to the effect that for ten weeks he was employed as page boy at 88, Queen Street, Exeter, where Mr. C. H. Sanders carries on business as a dentist. "I left there on the 18th day of April last." May I remind the Council that the hearing of this case was on February 25. "During the whole of the time"—the boy apparently remained there till April 18, and had been there ten weeks before—"during the whole of the time I was there the only persons engaged there in connection with the business in addition to Mr. Sanders were his assistant, Mr. Müller, and his apprentice, William Delve, who told me one day that he had been there about three years. There was another apprentice there called Mr. Mann, but he left when I had been there about a week. During the time I was employed at No. 88, Queen Street, Mr. Sanders did not attend there on more than four separate occasions, and on neither occasion did he stay more than four days. I used to go to No. 88, Queen Street, at 8 o'clock in the morning, and was employed there all day, leaving at about 7 o'clock in the evening."

Upon that affidavit reaching the hands of the gentleman who instructs me, Mr. Sanders was communicated with, and he has made out an affidavit in which he sets out what he has done since February 25, and the difficulty he had in finding a registered practitioner who was prepared to take his place at Exeter. That is an affidavit sworn yesterday by Mr. Sanders who is at Exeter, June 5. He is now at Exeter engaged in his practice there. He says: "Immediately after February 25 last I took every step which is usual and proper to carry out my undertaking. I at once entered my name in the books of the Dental Manufacturing Company as being in want of a qualified assistant, with the result that after the lapse of about a week I had three or four names sent me, with whom

I at once communicated. The letters from the Dental Manufacturing Company and from the said gentlemen who applied to me are at my house in Aldershot, otherwise I should exhibit them to this my affidavit. Within a fortnight or thereabouts I was in correspondence with a gentlemen residing in Rochester, with a view of his joining me as a partner to work the practice here and at Okehampton. That having fallen through I carried on correspondence with Mr. George Gilbert Liversidge, of 7, Romary Terrace, Greenwich, a registered dentist, whose registration was effected in 1878, and ultimately engaged him as an assistant here, to come on at the earliest possible moment, which was on April 29 last, and on that day he entered upon his duties here as my assistant, and continued to manage my practice here and at Okehampton from that day until May 17, when he left to manage my practice at Aldershot, and I came to Exeter on May 18 last, to manage and conduct my said practice here personally, and have continued to do so during the whole period, and am now, and have been since the said May 18, in my said house and premises, 88, Queen Street, Exeter, and intend to so remain.

" From February 25 to March 2 I was in London or Aldershot, endeavouring to engage a duly qualified assistant. On March 3 "—this is important because it apparently shows that the boy Avery's affidavit is incorrect in this particular—" on March 3 I came to Exeter to manage my practice here in person, and from that time to April 29, I was in residence at 88, Queen Street, Exeter, on the average of four days in each week personally attending and managing my said practice here." You will remember that there was a practice at Okehampton which he conducted at the same time as the Exeter practice. " I say that I have used every endeavour to honestly and *bonâ fide* carry out my said undertaking, and have done so and shall continue to do so in the future."

That is the affidavit which he has made, and as to the fact I think there can be no dispute that at any rate since April 29 he has had a properly qualified person carrying on his business there. Now he has explained the short delay which arose between February 25 and March 3. You will remember that the terms of the undertaking were that he would at once act, but of course he would have a reasonable time given him to find a capable assistant within his means, and a person who was properly recommended. On March 3 he went down himself, and he says between that date and April 29 he always spent four days in each week on the average at Exeter. It was in the contemplation of the Committee, I believe, but certainly in the contemplation of the parties, that if he did put a person in at Exeter he would also carry on business at Okehampton. Now I am upon that question of indulgence to which I made reference before, even if the Committee were to think this Report would justify their taking proceedings against this gentleman, and striking him off the Register, they would probably think under the circumstances that he was entitled to have that indulgence which his legal advisers certainly thought the Committee held out to him to some extent. I suppose they would not have said a word about an undertaking unless they were prepared to give due effect to any conduct on his part since the 25th February. Under those circumstances I ask this Council to extend to him any indulgence which they think he is entitled to, remembering that now he has acted in the way in which the Council desires, that according to his affidavit there has been no such delay as would disentitle him to have indulgence, and that under those circumstances the Council would be properly advised not to take any further steps against this gentleman.

Mr. R. W. Turner: In this case I appeared before the Committee, and the case was brought before the Committee of the Council by the British Dental Association, who at the time stated that they did not desire to press in any way unduly the charge, but to lay the facts before the Council in order that these dentists might learn that the resolutions of the Council were not to be treated as a dead letter. Now as to the facts of the case, I need not go into them, for with all respect to my learned friend's argument there is ample on the finding for the Council to find covering, if they desire to do so, and to find infamous or disgraceful conduct. But I now come to the question of the undertaking, because my friend has pointed out my clients procured an affidavit from an errand-boy employed at Exeter, which stated that this gentleman, Mr. Sanders, had not been there in practice, but had left Müller to do the practice until he, the errand-boy, left on April 18. In answer thereto it is extraordinary that Mr.

Sanders should have only filed this affidavit and should not have been here to-day to attend to a case which must affect him so materially; and I think it will be within the recollection of the Committee and those gentlemen who were there, that Mr. Sanders stated that there and then there was somebody ready to go down into the practice, and that person would go down there on the following Monday. If they were the facts, why on earth should the Committee find that he undertook to do this at once, if he wanted reasonable time to hunt round for some assistant? Those members of the Committee who were there will bear in mind what was in fact said, and the Committee has found that he was going to do this at once. What does he do? He does not do it until April 29, and I beg to call the attention of the Committee to this fact, that his solicitors wrote saying he was advised to give an undertaking to employ a qualified man.

Mr. Johnston Watson: It is very awkward to go outside the Report. I have no knowledge of this letter.

Mr. R. W. Turner: With regard to Mr. Sanders' zeal to employ a qualified man, this case was originally fixed to be heard by the Council on November 25, and was then adjourned till February 25. Nothing was done in the meantime, and nothing has been done until April 29. It is a matter, of course, for this Council to say whether this was complying at once, and whether or not, as I understand is generally the case in these cases, an undertaking would be given that such a person would in future conduct himself in an honourable and professional manner—whether or not the Committee can be satisfied with any such undertaking they might have from Mr. Sanders, when it has taken him all that time to get a qualified man, when one knows how many qualified men there are about.

Strangers then, by the directions of the Council, withdrew; on their re-admission,

The President: I have to announce to the representative of Mr. Sanders that the charge made against Mr. Clement Henry Sanders has been proved to the satisfaction of the Council; and the second is, that the Council could take one of two courses—either at once pronounce judgment, or postpone judgment until next session. It is resolved that the further consideration of the charge against Mr. Clement

Henry Sanders be adjourned until the next session of the Council in November, and the Council will then expect Mr. Sanders to appear in person and give them a satisfactory explanation of his past and present conduct.

June 8, 1896.

SIR RICHARD QUAIN, President, in the Chair.

APPLICATION OF MR. A. P. MERRILL.

The REGISTRAR read the following communication from the Privy Council Office in regard to the application of Mr. A. P. Merrill for registration as a dentist, together with observations prepared in reply :—

(*a*) Letter from the CLERK of the PRIVY COUNCIL.

76,556. "Whitehall,

"*February* 21, 1896.

"SIR,—I am directed by the Lords of the Council to transmit to you the accompanying copy of a Petition of Mr. Alfred Perkin Merrill, a Dentist practising at Melbourne, in the Colony of Victoria, appealing to the Privy Council against the decision of the General Council of Medical Education and Registration of the United Kingdom, not to place his name on the Dentists' Register, together with a copy of an Affidavit sworn by Mr. Merrill in regard to his qualifications as a Dentist, and I am to request that, in laying the same before the General Medical Council, you will move that Body to furnish their Lordships with any observations they may desire to offer upon the Appeal of Mr. Merrill.

"I am, Sir,

"Your obedient Servant,

"C. L. PEEL.

"*The* REGISTRAR *of the*
"GENERAL MEDICAL COUNCIL."

(*b*) PETITION TO THE PRIVY COUNCIL.

("*Copy*).

"To HER MAJESTY QUEEN VICTORIA, Her Heirs and Successors in HER MAJESTY'S PRIVY COUNCIL.

"*The ninth day of January*, 1896.

"May it please your Majesty and the Right Honourable the Lords of the Judicial Committee of the PRIVY COUNCIL.

"THE HUMBLE PETITION of the undersigned ALFRED PERKIN MERRILL, of 52, Collins Street, Melbourne, in the Colony of Victoria, Dentist, setteth forth :—

"1. That I am a Registered Dentist of the Colony of Victoria, and I also hold the Diploma of D.D.S. of the Philadelphia Dental College, U.S.A.

"2. I obtained the said Diploma in the year 1866, and I was, moreover, practising in the British Colonies years before the English Dental Act came into operation, viz., for some months in Canada in the year 1862, and in the Barbadoes in the year 1864.

"3. After obtaining the Diploma of Doctor of Dental Surgery (D.D.S.) at the Philadelphia Dental College, I practised as a Dentist at Montreal, Canada, for three months. Thence I went to New York, U.S.A., where I practised as a Dentist for some years. I became Secretary of the Odontological Society of New York, and I was also Professor of Operative Dentistry and Dental Histology in the North Western Dental College, Chicago. I resigned this position on account of ill-health.

"4. Though I am an American citizen by birth I have spent many years of my life in the British Colonies. I have lived for years in Canada, and am fully acquainted with all English modes of Dentistry. I now hold a leading position as a Dentist in Melbourne, Victoria.

"5. Being desirous of being registered as a Dentist in Great Britain, I applied to the General Medical Council of Great Britain for registration, and forwarded an affidavit (of which paper marked "A" is an exact copy) in support of my claims.

"6. The General Medical Council refused my application, and I forward herewith an exact copy of their reply (which was addressed to my Solicitor, Mr. Ernest Joske), on paper marked "B."

"7. And I do myself the great honour to appeal against this decision of the General Medical Council, and humbly pray that you will in your wisdom and goodness direct such General Medical Council to recognise my Diploma, and to register me accordingly as a Dentist of the United Kingdom.

"And your Majesty's humble servant will for ever pray.

"(Signed) ALFRED PERKIN MERRILL, D.D.S.

"Melbourne, Victoria,
"*January* 9, 1896."

(*c*) COPY OF AFFIDAVIT.

"I, ALFRED PERKIN MERRILL, of 52, Collins Street East, Melbourne, Victoria, make oath and say,

"That I am *a Registered Victorian Dentist*, and hold the Diploma of D.D.S. of the Philadelphia Dental College, U.S.A.

"I obtained my Diploma in the year 1866, but I was previously to that year practising as a Dentist in the British Colonies, viz. :—in the Barbadoes, where I followed my profession as a Dentist for close on twelve months, and previously to that I was for some months practising as a Dentist in Canada.

"Upon obtaining my diploma of D.D.S., I practised as a dentist in Montreal, Canada, for three months. I proceeded thence to New York, where I practised as a dentist for some years. I was formerly Secretary of the Odontological Society of New York, and I was also appointed Professor of Operative Dentistry and Dental Histology in the North Western Dental College, Chicago. I resigned this position owing to ill-health.

"I have spent many years of my life in the British Colonies, and am fully acquainted with all English modes of dentistry. I conduct my practice in a strictly professional manner.

"I am a naturalised subject in Victoria of Her Majesty, Queen Victoria.

"(Signed) ALFRED PERKIN MERRILL.

'Sworn before me this
"20th day of February, 1894.
"(Signed) WILLIAM FRANCIS, J.P."

(*d*) OBSERVATIONS IN REPLY, BY THE COUNCIL'S LEGAL ADVISER.

"(1) The 8th Section of the Dentists Act, 1878, provides that a person who is not domiciled in the United Kingdom, and shows that he holds some recognised certificate (as defined in the Act) granted in a British possession, and that he is of good character, is to be entitled without examination in the United Kingdom to be registered as a Colonial dentist.

"(2) The 9th Section of the same Act provides that where a person who is not a British subject shows that he obtained some recognised certificate (as defined in the Act) granted in a foreign country, and that he is of good character and continues to hold such certificate, is to be entitled without examination in the United Kingdom to be registered as a foreign dentist in the Dentists' Register.

"(3) By Section 10 of the Act the certificate granted in a British possession, or in a foreign country, which is to be deemed such a recognised certificate as is required for the purposes of registration is to be such certificate, diploma, membership, degree, &c., or other title status or document *as may be recognised for the time being* by the General Council, as entitling the holder to practise dentistry or dental surgery.

"The following facts, in relation to the application of Mr. Merrill for registration are material for the purposes of inquiring whether he satisfies the foregoing statutory conditions.

"(4) In the year 1862 and 1864, Mr. Merrill, being at the time an American citizen, practised dentistry in Canada and Barbadoes.

"(5) In 1886 Mr. Merrill obtained from the Philadelphia Dental College his diploma of D.D.S., and consequently for some years practised as a dentist in New York.

"(6) In the month of April, 1890, Mr. Merrill was registered in the Dentists' Register of the Colony of Victoria, and, at same date, which is not stated in the papers, Mr. Merrill became a naturalised British subject in Victoria.

"(7) As regards the American Diploma held by Mr. Merrill in the year 1879, the General Council caused very full inquiries to be made in reference to the courses of study and examinations required by several of the Foreign and Colonial Dental Colleges and Institutions, with the view of ascertaining whether the Certificates or Diplomas of those Institutions furnished sufficient guarantees of the possession of the requisite knowledge and skill for the efficient practice of dentistry, and amongst the diplomas or certificates which were the subject of inquiry were those granted by the Dental College of Philadelphia. The General Council ascertained that in this Institution, as in several others, there was no preliminary examination, that two years only of professional study were required, and that the examination in each was conducted solely by the Teachers and Officers of the Institution. The General Council, therefore, having regard to the requirements which are necessary for diplomas in Dentistry in the United Kingdom, which comprise a preliminary examination and four years of professional study, felt unable to recognise the Certificate of the Philadelphia Dental College as one which ought to entitle the holder to registration as a Foreign Dentist in the Dentists' Register.

"(8) As regards the registration of Mr. Merrill in the Dentists' Register of Victoria, the General Council have not hitherto been able to recognise that a person who is so registered, but who does not possess any Colonial diploma or licence, is the holder of a Certificate which furnishes sufficient guarantees of the possession of the requisite knowledge and skill for the efficient practice of Dentistry or Dental Surgery.

"(9) Mr. Merrill apparently is applying for registration as a Colonial dentist and not as a foreign dentist. The possession of the foreign diploma, even if it were recognised, would not entitle Mr. Merrill to be registered under s. 8 of the Act as a Colonial dentist.

"(10) The only qualification therefore which Mr. Merrill possesses, on which he can found an application for registration as a Colonial dentist, is the fact that he is registered in the Register of Victoria. But as already stated the General Council have not been able to, and do not recognise registration in this Colonial Register as of itself entitling an applicant to be registered under ss. 8 and 10 of the Act.

"March 20, 1896."

Sir WILLIAM TURNER: After that statement I have to move the following motion:—"That the observations by the Council's Legal Adviser on the petition of Mr. Alfred Perkin Merrill, be forwarded to Her Majesty's Privy Council as the answer of the Council to his appeal."

Mr. WHEELHOUSE: I beg to second that.

Dr. MACALISTER: I should like to suggest a verbal change, so that it will read—"That the observations prepared by the

Council's Legal Adviser on the application of Mr. Alfred Perkin Merrill, be adopted and forwarded by the Council to Her Majesty's Privy Council."

The resolution as amended was agreed to.

June 9, 1896.

Sir RICHARD QUAIN, President, in the Chair.

THE CASE OF MR. JOSEPH STROMIER.

The following Report was received from the Dental Education and Examination Committee on a communication from the British Dental Association, referred by the General Council to that Committee on November 29, 1895 (*Minutes*, vol. xxxii., p. 143).

"British Dental Association,
"(*Incorporated June* 3, 1880),
"40, Leicester Square, London, W.C.
"*November* 25, 1895.

"DEAR SIR,—I beg to submit the following matter of urgency to the attention of the Medical Council at its present Session.

"Joseph Stromier, of Glasgow, having obtained the D.D.S. Diploma of Michigan University, U.S.A., presented himself, last October, for examination at the Faculty of Physicians and Surgeons, Glasgow, for the L.D.S. Diploma. He submitted as his dental curriculum that of the Michigan College, and upon that curriculum he was admitted to the L.D.S. examination of the Faculty. He failed in the examination, but it is his intention to present himself again in April next.

"The point I wish to draw the Council's attention to is this—the Faculty of Physicians and Surgeons, Glasgow, *accepted the dental curriculum of Michigan*, a curriculum no longer recognised as satisfactory by the Medical Council, in lieu of their own, and admitted Stromier to examination. In doing so, I venture to submit that the action of the Glasgow Faculty is *ultra vires*, and I beg the Council to take steps, as they may deem necessary, to prevent a recurrence of such action.

"I am, dear Sir,
"Yours truly,
"W. B. PATERSON,
"*Hon. Secretary.*

"W. J. C. MILLER, Esq., *Registrar.*"

In answer to an inquiry sent by the Registrar, the following explanatory communication was received from the Faculty of Physicians and Surgeons of Glasgow in reference thereto:—

"Faculty of Physicians and Surgeons,
"Glasgow, *April* 28, 1896.

"SIR,—I have to acknowledge receipt of your communication of yesterday, with a printed copy of a letter from Mr. W. B. Paterson, Honorary Secretary of the British Dental Association, of date November 25, 1895, addressed to you as Registrar of the General Medical Council, in which complaint is made regarding the alleged action of this Faculty in admitting to the Examination for the Licence in Dental Surgery, Mr. Joseph Stromier, inasmuch as by so doing they accepted the Dental Curriculum of Michigan University, such action being stated to be *ultra vires.*

"The facts of the case, as gleaned from the Faculty records, are as follow :—

"(1) By letter of date August 31, 1895, Mr. Stromier intimated to me his intention of entering for the L.D.S. Examination, at the same time submitting evidence that he had passed a recognised Preliminary Examination in 1891, and that he had been registered as a Dental Student by the General Medical Council in January, 1892. In his letter he applied for exemption from Examination in Anatomy, Physiology, and Chemistry, in consideration of his possessing the Dental degree of Michigan University. On September 3, 1895, he was informed by letter that his claim for exemption from any part of the examination was disallowed ; and on September 28 he entered for the first examination only, having duly submitted evidence that he had attended the courses prescribed for the examination. He failed to satisfy the examiners, and was remitted to his studies for six months.

"(2) On March 28, 1896, he re-entered for the First Examination, at the same time entering provisionally for the Second Examination, that is, conditionally on his passing the First Examination. In doing so, as required by the Regulations, he submitted the schedule of his entire course of study, of which the period of three years and nine months were certified as attended at the school of Ann Arbor, being that of the University of Michigan, and six months in Glasgow, all the entries being attested by official signature, in the schedule, or by the production of separate certificates. The course of study, as thus certified, was in several particulars in excess of the present requirements of the Faculty, and still more in excess of the requirements of 1882, when he began study. On this occasion he passed both the first and the final examinations, and was enrolled as a Dental Licentiate.

"(3) Mr. Paterson alleges that the action of the Faculty, which has been here stated in detail, was *ultra vires*, but he does not state how it was so. The only resolution of the General Medical Council which may be said to have any bearing on the matter appears to be that contained in vol. xxx. (p. 84) of their Minutes, suspending till further notice registration of the certificates of the dental degrees of two

American institutions, one of them being Michigan University. But as I have stated, the candidate in question obtained no advantage at this Board from his possession of the Michigan Degree. In this respect therefore there has been no violation of even the spirit of the resolution of the General Medical Council. It is true that the larger portion of his professional education was obtained in the school of that institution ; but the Faculty are not aware that either as regards medical or dental education the General Medical Council have passed any resolution limiting the discretion of the qualifying bodies in regard to the recognition of schools either outside or within the United Kingdom. If any such limiting instructions have been issued, no copy of them appears to have reached the Faculty ; and the General Medical Council have only to draw the attention of the Faculty to them to secure their being carried into effect.

" I am, Sir,
" Yours obediently,
" ALEXANDER DUNCAN.
" *Secretary.*

" W. J. C. Miller, Esq., B.A.,
" *Registrar of the General Medical Council.*"

Report by the Committee.

The Dental Education and Examination Committee have considered the communication from the British Dental Association dated November 25, 1895, respecting the case of Joseph Stromier, with the explanatory communication of the case received from the Faculty of Physicians and Surgeons of Glasgow, dated April 28, 1896 ; and they beg to report that they do not find that there has been any irregularity in the action of the Faculty with respect to the Candidate named, seeing that he was only admitted to Examination for the L.D.S. on submitting evidence acceptable to that Faculty that he had duly attended the courses prescribed for the Examination.

Thomas Bryant,
Chairman.

Mr. Bryant : There is not much to relate to the Council upon this. There was a certain letter written to us by the British Dental Association, which was referred by this Council to the Committee. It is in respect to the Faculty of Physicians and Surgeons of Glasgow, who have been accused of doing what they ought not to have done, but they gave such a very satisfactory answer that the Committee report as you see by the print. The accusation was evidently made in error, so that I hope the Report will be accepted. I move: "That the Report from the Dental Education and Examination Committee in regard to a communication from the British Dental Association be received, approved, and sent to the Faculty of Physicians and Surgeons of Glasgow, and to the British Dental Association."

Sir WILLIAM TURNER seconded.

The motion was agreed to.

TEACHERS AT DENTAL EXAMINATIONS.

The REGISTRAR: The next business is an application from Mr. J. D. Whittles (registered as Licentiate in Dental Surgery of the Royal College of Surgeons of England, 1892), who wishes to be present at the dental examination of the Royal College of Surgeons in Ireland, in the same way that he has frequently been present at the examinations of the English College.

"Mason College, Birmingham,
"*April* 25, 1896.

"DEAR SIR,—You will notice that I have been asking permission to be present at the Dental Examination (from the enclosed letter) to be held in about fourteen days hence in Dublin, and I should feel grateful if you would send me the necessary permission.

"I have been in the habit of being present at all the dental examinations in London for the last four years, and as I hold a Lectureship at the Birmingham School of Medicine, consider that I am entitled to be present.

"Your kind attention will be greatly esteemed by,

"Yours faithfully,
"J. DENCER WHITTLES.

"W. J. C. MILLER, Esq., B.A., *Registrar*."

"Royal College of Surgeons in Ireland, Dublin,
"*April* 20, 1896.

"DEAR SIR,—With reference to your letter of April 1, I am directed to inform you that our examinations are only public to our own Fellows and Licentiates and visitors accredited from the General Medical Council.

"Yours faithfully,
"ROB. H. WOODS, F.R.C.S.
"*Sec. of Council.*

"DENCER WHITTLES, Esq., L.D.S.,
"Mason College, Birmingham."

The President desired me to lay it before the Council because he thought it should be answered by the Council and not by the Registrar himself.

Sir Wm. Turner: I submit that this is not a case we have anything to do with. It is a matter entirely within the Institution itself whether it will admit A, B or C to its examination. It has nothing to do with us.

Mr. Wheelhouse: I will move: "That the subject is one on which the Council cannot interfere."

Sir William Turner seconded the motion, which was agreed to.

Odontological Society of Great Britain.

The Annual General Meeting of the Odontological Society was held at the rooms of the Society, Leicester Square, on Monday, June 1, Mr. David Hepburn, L.D.S. (President), in the chair.

The minutes of the previous meeting were read and confirmed. Messrs. Badcock and Brunton were appointed scrutineers for the ballot.

Mr. Maggs (the librarian) presented his Annual Report, which showed that the number of members using the library during the previous year amounted to thirty-two, the number of visitors being forty-two; forty-four books had been borrowed during the year.

Mr. Hutchinson (treasurer) also brought forward a Report. He stated that the gross receipts for the year, from November 1, 1894, to October 31, 1895, amounted to £648, and the gross expenditure was £461, leaving a balance of £187. The amount of the Society's investment in consols was £4,327.

Mr. Storer Bennett presented to the Society, on behalf of Mr. Morton Smale, two specimens of comparative dental pathology. The first one was the skull of a female gorilla, showing on the inner side of the mandible a certain amount of absorption of the alveolus. The other specimen was also the skull of a female gorilla, showing a loss on one side of two molars, with a very large cavity of absorption of the alveolus, while on the other side the first and second molar and the second premolar had been lost.

Mr. Storer Bennett also presented his Report as curator, and exhibited the various presentations made to the museum during the preceding year.

Mr. Boyd Wallis exhibited a tray for annealing gold for filling purposes, heated by electricity. The lamp was one which had been specially prepared for him by Messrs. Edison and Swan, a 100-volt lamp of 32 candle power. He stated that he found this method of annealing very useful in connection with sponge gold.

Dr. Washbourn then read a paper on "Some Points in Connection with the Bacteria of the Mouth," which had been prepared by himself and Mr. Goadby.

They stated that they had been especially interested in the relation of the streptococci found in the mouth to those occurring in septicæmic conditions in the human subject, and had made a number of observations in that connection. Continuing, they said :—

In the course of our investigations we have examined the mouths of a large number of healthy and sick individuals, so that we have attained a fairly extensive practical knowledge of the bacteria of the mouth.

The importance of diminishing the number of bacteria in the mouth is due to the undoubted fact that caries is caused by their agency. It is well known that caries occurs most frequently in those who neglect their teeth. There are no doubt other causes which favour the production of caries, such as an imperfect development of the teeth, a deficient calcification, and so on ; but these are only predisposing causes, and without the agency of bacteria caries does not occur.

After referring to the various species of bacteria usually met with in the mouth, they remarked :—We have isolated a bacillus which agrees in its miscroscopical appearances with that described by Miller as the leptothrix buccalis maxima, and which differs from the bacillus buccalis maxima in not staining with iodine and lactic acid.

There is abundant proof that bacteria pathogenic to the human subject are frequently found in the mouth of healthy individuals. The *diplococcus of pneumonia* has been found in a large number of the cases in which it has been searched for. The best method of isolating it is to inoculate mice with saliva and to make cultivations from the blood after death. This micro-organism is the cause of acute lobar pneumonia and of some forms of pleurisy, cerebro-spinal meningitis, otitis, and other diseases in the human subject.

The *diphtheria bacillus* has also been found in certain cases. On several occasions one of the authors has found virulent diphtheria bacilli in the mouths of perfectly healthy individuals, or in patients convalescent from scarlet fever and with no symptoms of diphtheria. In one case it was present for several weeks in the mouth of a healthy individual. The virulence was tested upon an animal and found to be high.

Among the pathogenic bacteria that have been found from time to time in the mouths of healthy individuals, we may mention the streptococcus pyogenes aureus, and the streptococcus pyogenes.

The occurrence of pathogenic bacteria in the mouth is of great interest. It throws light upon the spread of disease, and shows how an apparently healthy individual may convey disease to another. It, moreover, shows how carefully dental instruments should be disinfected after use. But apart from these practical considerations there is the theoretical question—how a virulent bacterium can remain in the mouth without producing disease. This is, without doubt, due to the individual being immune. A bacterium only becomes pathogenic when it is virulent in relation to the susceptibility of the individual. The same bacterium may be harmless to one individual and yet produce disease in another.

With regard to the question of the presence of pathogenic streptococci in the mouth, the evidence is conflicting ; some observers state that pathogenic streptococci are frequently present, others say they are seldom present ; while a third series of observers maintain that a streptococcus is commonly found in the mouth which is non-pathogenic, and which is a different species to the pathogenic streptococcus.

We have made a number of observations in this direction. On making microscopical examinations from various regions of the mouth, we have been struck with the frequent presence of masses of cocci. They are generally to be found on the tonsils and gum margin, and invariably on the mucous membrane of the buccal sulcus ; we have found them present in the mouths of eighteen healthy individuals we have examined. These cocci are often found lying upon squamous epithelial cells ; as a rule the cocci are arranged in the form of diplococci, but sometimes short chains are to be seen. The individual cocci may be elongated, giving them the appearance of short bacilli. Now by making cultivations from the buccal sulcus where these cocci are always present we have invariably obtained cultivations of streptococci, which we have no doubt are the same as those seen in the microscopical preparations ; that the cocci are arranged chiefly in pairs in the mouth and chains in the cultivations is quite consistent with what we know of the morphology of streptococci.

The method we have adopted is the following : a little of the scraping of the mucous membrane was removed with a platinum wire, and both tubes were incubated at 31° C. for twenty-four hours ; at the end of this time the broth examined microscopically showed a growth consisting of diplococci, streptcocci, and other bacteria ; from the broth streak cultures were made on agar. Sometimes the resulting growth was a pure cultivation of streptococci, but generally other colonies also appeared ; among these the most frequent were large colonies of sarcinæ, especially in those cases in which a large amount of caries existed. Having obtained the cultivation on agar, pure cultivations could easily be obtained by inoculating a third series of agar tubes.

We have examined 24 mouths in all, 16 with perfectly sound teeth, and 8 with one or more carious teeth, and in every case streptococci were obtained in the cultivations. These observations show quite conclusively that streptococci are invariably present in the mouths of healthy individuals ; they also show what care must be taken in coming to conclusions as to the signification of streptococci found in the mouth in disease. Many observers, in making bacteriological examinations of the exudation in diphtheria, lay great stress upon the presence of streptococci in addition to the diphtheria bacillus in the cultivation tubes, and they state that when many streptococci develop in the cultures the case is more severe than when the diphtheria bacillus only is present.

An exceedingly important question arises with regard to the relation of the streptococci found in the normal mouth to the streptococcus which is the cause of disease in the human subject. Is the streptococcus of the normal mouth a harmless saphrophyte, which is only related to the streptococcus of disease by certain similarities, just as the hay bacillus resembles the anthrax bacillus? Or are the micro-organisms varieties of the same species, which are capable under appropriate conditions of being mutually convertible? Can the normal streptococci of the mouth invade the body and produce disease under circumstances which lower the resistance of the body?

We have already alluded to the occasional presence of virulent diphtheria in the mouth, and there is no doubt that virulent streptococci are also at times present. Several observers have undoubtedly found virulent streptococci in the mouths of healthy individuals, but this does not prove that the streptococci constantly present in the mouth are of this nature.

Our own observations have led us to incline to the view of Lingelsheim, that the normal streptococcus of the mouth is a different species to that producing disease.

Now to understand the difficulties in distinguishing the normal streptococcus of the mouth from that of disease, we must say something of the varieties of streptococci found in various diseases in the human subject.

Having dealt at some length on this point, they remarked: "The streptococcus from the normal mouth differs from the streptococcus longus in the following points: (1) It is non-pathogenic when tested upon rabbits and mice. (2) It produces a uniform turbidity in broth cultivations. (3) It clots milk and produces much more acid than the streptococcus longus. (4) The individual cocci are smaller, and the chains, especially in broth cultivations, shorter. The length of the chains is not always a reliable criterion. Sometimes in the impure cultivation obtained from the mouth the chains are very long, and this is probably due to the medicine being altered in composition by the other bacteria present.

The conclusions which we draw are these:—The streptococcus, if occurring normally in the mouth, agrees with the streptococcus brevis of Fingelstein, and can be distinguished from the streptococcus of disease by its biological and morphological characters. It must be looked upon as a distinct species for the present, although ultimately this view may be proved incorrect, for it is possible that further researches may enable the streptococcus brevis to be converted into the streptococcus longus. This, however, has hitherto not been accomplished.

We think that the discrepancies of different observers who have investigated the streptococci of the mouth are partially due to the fact that the streptococcus longus is sometimes accidentally present and has been mistaken for the normal streptococcus of the mouth.

Dr. DURHAM said that a serum prepared by means of steptococci had been largely used already. A certain number of cases which had been treated had not responded at all, but in other cases the effect of giving an injection of anti-streptococci serum had been most marvellous, and he thought it clearly pointed to the fact that the streptococci present in the various pathogenic conditions in man were not of one and the same species. He was afraid that serum treatment would never reach the pitch of protecting teeth against acid formation.

Mr. PACKES agreed with Dr. Washbourn that sufficient care was not taken by many dentists in sterilising their instruments.

Dr. PETERS asked whether any causal relation existed between the acid-producing streptococci and caries of the teeth.

Mr. MUMMERY said, with regard to the pathogenic effect of the streptococci on the mouth, there was a paper by M. Galippe, published in Paris, in which the author described a case of endocarditis which he distinctly traced to the mouth. Mr. Mummery thought too much attention could not be drawn to the question of the antiseptic treatment of instruments. The only safe method was to put the instruments into boiling water as soon as they were done with. He asked whether the alteration of the appearance of the cocci, the oval and round cocci, might not be due to the alteration in the nutrient condition of the medium in the mouth. Sometimes there was a diminution of the nutritive power, and then transition forms were obtained and not typical forms. Dr. Miller had said, with regard to pneumonia bacilli, that they were nearly always found present in the mouth, and that they were very easily killed.

Dr. ST. CLAIR THOMPSON said he was very anxious to hear what became of the bacteria in the mouth. With regard to bacteria in the nose, he found that the majority was stopped at the entrance to the nose, and the remainder stuck to the gluey mucous lining, and were turned out of the nose by the ciliated epithelium. Some continental observers claimed the mucus of the nose to be distinctly bactericidal, and claimed that it could kill the spores of anthrax. His colleague, Dr. Hewlett, and himself had tried over and over again to confirm that, but had completely failed. They found, however, that it had one distinct virtue, namely, that it inhibited the growth of bacteria. He suggested that the bacteria entering the mouth were wrapped up in the saliva, and either expelled or swallowed. He would also like to know whether the bacteria were more numerous in people who breathed through the mouth.

Mr. STORER BENNETT thought the idea that the acid generated by the organisms caused caries was an erroneous one, because Dr. Washbourn had distinctly stated that the diplococci were always present in the mouths of persons who had absolutely no decayed teeth, as well as in those who had a large number of such teeth. Although those organisms might generate a certain amount of acid, it was not fair to jump to the conclusion that the acid generated by them was acid capable of producing caries. It was obvious to all who were familiar with Dr. Miller's work and with the work of others on the subject of caries of the teeth, that much more was necessary to produce caries than the streptococci, even though it might be true that they had the power of generating acid.

Mr. SIDNEY SPOKES said he gathered from the paper that saliva was bactericidal, and the authors compared it to serum. He could not quite reconcile that with the fact that serum was used for the cultivation of bacteria.

Mr. GOADBY, replying to Dr. Durham, said that with regard to the classification of the streptococci, the point was that on the various media the streptococcus brevis gave a good many different reactions. No one could take simply the morphology of the two streptococci and say that one was the brevis and the other the longus. It must be cultivated on all the various media for the different reactions. With regard to the remarks of Mr. Storer Bennett, as to caries being produced by the acid of the streptococci, nine-tenths of the bacteria produced acid, and it was simply a point in culture. To say it would be the sole cause of caries would be a mistake, because it had been stated several times in the paper that the diplococci came from the buccal sulcus. Along the margin several species of bacteria were found, and it was there one would expect to find the acid production. In making cultivations from teeth a vast number of bacteria were obtained, and as each one of them might independently produce an acid, and each one might produce a different acid, several species of acids might be obtained, some of which would react on the tooth substance.

Dr. WASHBOURN also replied. In regard to the remarks of Dr. Durham, he said a very interesting case had come under his notice, a boy who, shortly after removal of a tooth, was taken with severe symptoms of septicæmia and with cerebral symptoms. He felt quite satisfied that the boy had some commencing meningitis, and that probably it was a streptococci infection. A little of the pus from the tooth was examined and streptococci were found, but unfortunately the virulence was not tested, nor were a series of cultivations made in order to see whether it was the streptococcus longus or some of the streptococci from the mouth which had accidentally entered the tubes. The case was treated with serum with most remarkable results. Very soon after the injections the boy got better, and ultimately completely recovered. With regard to the case of infected endocarditis, that occurred from infection of the mouth. He had no doubt, however, that the ordinary pathogenic streptococci were sometimes present in the mouth, and that septicæmia might be produced in that way when any wound of the mouth occurred. As to the shape of the cocci, they would vary with the medium in which they were cultivated. With regard to the presence of the pneumococci in the mouth, he had some doubts as to whether the streptococcus had not been mistaken for the pneumococcus. They were very similar. As to what became of the bacteria of the mouth, he had no doubt that many were mechanically removed by the saliva, and swallowed and became destroyed by the gastric juice. Only fresh serum was harmful to bacteria, when the serum was sterilised its bactericidal properties were rapidly destroyed.

A vote of thanks was accorded to the authors.

Election of Officers.

The following members were elected as Officers and Councillors for the year 1896-7 :—

President.—Mr. Robert H. Woodhouse.

Vice-Presidents.—Mr. John Fairbank, Mr. C. J. Boyd Wallis, and Mr. John Ackery (*as Resident*), and Mr. Henry George, Mr. J. F. Cole and Mr. Macgregor (*as non-Resident*).

Treasurer.—Mr. W. H. Woodruff (Mr. Hutchinson having resigned).

Librarian.—Mr. W. A. Maggs.

Curator.—Mr. Storer Bennett.

Editor of Transactions.—Mr. J. F. Colyer.

Honorary Secretaries.—Mr. J. H. Mummery (Foreign) ; Mr. Clayton Woodhouse (Council) and Mr. H. Baldwin (Society).

Councillors.—Messrs. Gartley, Robbins, Spokes, Smith, Curnock, Gould, Butcher, Albert and Kluht (*Resident*), and Messrs. Arkövy, Baker, Huxley, Cunningham, Mason, Andrew, Washbourn, Amoore and W. R. Ackland (*non-Resident*).

The President then delivered his address, in the course of which he said it would, he was sure, be a source of gratification to the newly-elected officers to know that they came to their work with the full confidence and assured support of all their fellow members, inasmuch as they were so well qualified to carry on the important work of the Society. Having expressed his gratitude for the unfailing support accorded him during his official year, he reviewed the various papers read, and the communications made to the Society during the past twelve months, which he considered, viewed impartially, in scope and character were in all respects worthy of the Society's highest aims. In vacating the chair he declared that he carried with him a legacy of never-to-be-forgotten memories, and the recollections of many evenings profitably spent. He had, he observed, only one legacy to bequeath in return, but it was one which he felt sure they would be glad to receive, viz., an ancient volume, containing a copy of the invitation signed by Mr. Samuel Cartwright, Mr. John Tomes, Mr. Thomas Arnold Rogers and some fifty autograph letters, written in response thereto by the early members, joining prior to the adoption of the election by ballot in 1856. It also contained fragments of correspondence with the Royal College of Surgeons, which led up to the foundation of the Dental Diploma, some original amended drafts of the diploma, and many other documents of historic interest, which would find a fitting home in their library. His parting wish was that the Society might long continue to prosper.

On the motion of Mr. HUTCHINSON, a vote of thanks was cordially tendered to the President for his services. Votes of thanks were also passed to Mr. Mummery and Mr. E. Lloyd-Williams on their retirement, and to the Officers and Council, and the meeting closed.

North of England Odontological Society.

THE second Annual Meeting of the above Society was held on April 22, in the Newcastle Dental Hospital. The election of officers for the ensuing session took place, and resulted as follow :—President, Mr. W. Sommerville-Woodiwis ; Vice-President, Messrs. J. A. Fothergill and R. L. Markham ; Hon. Treasurer, Mr. W. G. Routledge ; Hon. Secretaries, Messrs. J. T. Jameson and W. D. Moon ; Council, Messrs. J. F. Kekwick, W. J. Mason, John Kekwick, J. G. Ranken, J. W. Daniels and S. Brown. Mr. J. W. Daniels was also appointed Librarian and Curator of museum.

The first Annual Dinner, which was held after the meeting, was in all respects a success.

Abstracts.

The Need for Better Legislation in Medicine and Dentistry.

IN summing up the case of Regina *v.* Priestley, at the recent Leeds Assizes, Mr. Justice Wright observed that the prosecution had "called attention to the dangerous results that might arise from allowing ignorant persons to use and practise a skilled profession." Few persons who read the evidence given at the trial will be disposed to dissent from this opinion. The prisoner was prosecuted for manslaughter in the following circumstances. He called himself a herbalist and a maker of imitation teeth. He was not qualified as a dentist, but nevertheless he practised dentistry at Idle. On April 17

Lavinia Sawdon, a servant girl in the service of a Mrs. Sykes, a neighbour of the prisoner's, had the toothache. The prisoner examined her mouth and said he would extract the tooth for her. The girl asked if he used gas, and her mistress inquired if gas would do her any harm. Priestley said it would not. The girl had eaten a hearty meal of beef, potatoes, and pudding at midday, and within a relatively short time afterwards went to the prisoner's house to have the tooth drawn. The evidence went to show that Priestley had given her about half an ounce of chloroform and had drawn the tooth without the presence of any third person in the room. Mrs. Sykes became alarmed at the girl's absence, and on going to Priestley's house found that she was dying or dead. Dr. Honeybourne, of Idle, who was called in, saw her sitting upright in an arm-chair with her dress fastened except two or three buttons at the top. The *post-mortem* showed that all the organs were healthy and that the stomach was half full of food. The doctor gave it as his opinion that the patient had died from asphyxia caused by the administration of chloroform. The charge against the prisoner was that he had occasioned the death by the negligent administration of that drug.

The medical testimony at the trial was to the effect that qualified men never administer chloroform alone except in cases of emergency; that chloroform should be given upon an empty stomach; that not only the dress, but the stays of the patient should be loosened; and that the soundness of the heart should be ascertained before the anæsthetic is employed. It is also the practice of anæsthetists to give chloroform to patients only when the latter are in a recumbent position. The dental surgeon to the Bradford Infirmary and second dental surgeon proved that it was the rule amongst members of their profession always to call in a medical man for the purpose of administering chloroform. The medical man watches the action of the anæsthetic while the dentist performs the operation. No witnesses were called for the defence. The Judge, in summing up, observed to the jury that "the law allows an unqualified person to perform operations and practise his profession, and provided he is not negligent, but uses due care, he was not criminally liable." The question for them was whether Priestley had administered what he "knew or ought to have known" to be a dangerous drug without taking such precautions as he knew or ought to have known to be necessary. There was no evidence that the prisoner had neglected any precautions that he knew of. The point, as the Judge put it to the jury, was whether the accused was "guilty of criminal negligence in using chloroform when he did not know more about it?" The jury were unable at first to agree, but after the Judge had reminded them that the prisoner was entitled to the benefit of the doubt, if they had any substantial doubt, they eventually brought in a verdict of acquittal. The result must be assumed to be in accordance with the law as it stands. The question of public interest raised by the trial is whether such a state of the law is itself satisfactory. There can be no doubt that chloroform in unskilled hands is not an absolutely innocuous drug. In this case it appears to have been established that the drug was administered in utter ignorance or neglect of principles recognised and acted upon by men familiar with its properties and action. A number of factors favourable to a fatal issue and which a moderately skilled and careful medical man would have known to be favourable to a fatal issue, were present, and naturally enough a fatal issue followed. Ought the law to allow anybody to administer for payment drugs which may be dangerous, without some proof that the person administering them has an elementary knowledge of their properties and effects? A similar question may be asked with regard to the practice of medicine, surgery, and dental surgery themselves. Under the existing law any unqualified person may practise and perform operations with impunity so long as he does not employ professional titles to which he has no right. Is this a sufficient protection to the public against the pretensions of quacks? It is the only protection that the great mass of the people, and particularly the poorer classes of the people, have. The names of the men who have acquired qualifications by education and have proved that they possess them by examination, and who have not forfeited their position by unprofessional conduct, may be found, it is true, in the medical and other registers. But those registers themselves are, for practical purposes, inaccessible to the general public. They are unknown and unsought for outside of the Courts of Justice, the hospitals, and a few great libraries and scientific institutions. In most foreign States, and in some of our own colonies, the community takes a different view of its duty towards its members. In them the law prohibits the practice of the various branches of the art of healing by unqualified persons, and breaches of the law in this respect are punishable by substantial penalties.

Such protection as the law does afford the public in this country is grievously impaired by the ease with which the existing statutes may be evaded. Cunning is not a quality in which the most dangerous and most flourishing orders of quacks can afford to be deficient, and they have no difficulty in breaking through the puerile obstacles to their proceedings contained in such statutes as the Medical Acts and the Dentists Act. In fashionable quarters the sham doctor simply puts a quiet brass plate on his door with "Mr. Jones" or "Dr. Brown" upon it. He does not infringe the Acts. Nobody can touch him. His brass plate is the same as that of his qualified and registered neighbour. There is nothing to warn the incautious that he is an impostor, an ignoramus, or a black sheep. The title assumed by Priestley is a favourite device to procure dental practice in the north of England. The unqualified practitioner calls himself a "manufacturer of artificial teeth," or a "maker of imitation teeth." The law cannot harm him. He has not used one of the titles covered by the Dentists Act. Ignorant persons probably fail to distinguish between him and a qualified dentist, and how gross may be his own ignorance the case of Priestley sufficiently proves. But even when the quack has been caught, prosecuted to conviction, and punished, the law affords him a ready way of resuming and extending his business on a grand scale. He has only to turn himself into a company and he can laugh at the Acts. The law punishes "persons" who falsely proclaim by use of titles that they are qualified to practise. But the House of Lords has decided that in these cases a company is not a "person," and is therefore not liable to punishment. The consequences are shown in a case which actually took place in Manchester. A man was prosecuted for infringing the Dentists Act, and was convicted and fined. At the end of the case his solicitor told the prosecuting counsel that the decision would not make the least difference to his client, as the client would immediately register himself as a company, when, as the solicitor observed, "we can defy the Acts." The plan was duly carried out and with the desired result. A second illustration equally instructive may be given. In 1879 a man stood for the preliminary examination of the Pharmaceutical Society. The subjects are Latin, English, and arithmetic. The candidate was "ploughed." He has stood on fifteen occasions since, the last being in January of the present year, and he has not passed yet. In 1893 penalties were recovered against him for selling poisons as a "chemist and druggist," and further penalties have been recovered since. He has now converted himself into a company, and, like his fellow at Manchester, can "defy the Acts." The professions affected by this absurd defect in a group of statutes are making a vigorous attempt to have it remedied by the insertion of a clause in the Companies Act, now before Parliament, and it is sincerely to be hoped in the public interest that they may be successful. There are other important points in which the statutes regulating the rights and duties of medical men, surgeons, dentists, apothecaries, and others urgently need amendment. The general character of the changes required is perhaps indicated sufficiently by the words of Mr. Justice Wright, which we have already quoted. He rightly spoke of the "dangerous results which may arise from allowing ignorant persons to use and practise a skilled profession." The nature of those results has been shown in the "Indian Oculists" case and in the case of Priestley. It is for the public themselves to decide whether society ought to remain practically without defence in the face of such perils to life and limb.—*The Times*, *May* 28.

The following letters have also appeared in the *Times* :—

To the Editor of the " Times."

SIR,—The questions raised in your valuable article on the danger and injury caused to the public by unqualified medical practice really include many more matters of vital importance to the community at large than an ordinary observer can detect.

This is so strikingly emphasized by the cases recently carried to the High Court by the Medical Defence Union and reported by you, that I venture to think the points involved are worthy of closer attention, especially in relation to the vexed question of what is actually written in our statutes, and what is the interpretation of the same by the Courts, and the effect thereof upon the efforts which are being strenuously made by the medical profession to improve its education and scientific reputation.

The cases I refer to are those of " Reg. *v.* Lewis and Frickart," and " Reg. *v.* Lewis and Bridgwater." In these two instances the Medical Defence Union endeavoured to insure the fulfilment of the provisions of the Medical Act, 1858, and the object of which is stated in its preamble to be the provision of such measures as shall enable the public to distinguish between properly-qualified medical practitioners and unqualified persons.

It is obvious that there are two lines of action by which this object may be attained—(1) by establishing a register of properly-qualified practitioners, and by preserving the purity of that register ; (2) by punishing persons who, for purposes of gain, deceive the public into thinking that they are properly-qualified registered medical practitioners.

The matters of education and of professional conduct, according to which the register in question is constructed, are intrusted by the Act (1858) to the General Medical Council, and the execution of the general punitive measures of Clause 40 of the same Act to the Courts of summary jurisdiction.

The Medical Defence Union entered proceedings against Frickart on the first of the above lines of action, since, although she, a female medical practitioner, had been struck off the register by the General Medical Council for " infamous conduct," under Clause 29 of the Medical Act, 1858, and, although her only registrable British diploma was taken away by the licensing board which granted it, she nevertheless started practice in conjunction with a quack and used the term M.D. for the obvious purpose described in Clause 40.

But the M.D. diploma she possessed was only that of Zurich, and was not registrable in view of her having been deprived of her British qualification. Consequently the council of the Medical Defence Union considered that she employed the term M.D. in an illegal manner, and summoned her under the Act.

However, the stipendiary magistrate of Cardiff, before whom the case was primarily heard, failed to grasp the principle of the Act or the meaning of its plain wording, and so dismissed the summons. As this remarkable decision annulled (at Cardiff, for a magistrate's decision is worth nothing to other Courts) the protection to the public provided by erasure from the Register of undesirable persons, the council of the union brought the cause to appeal, before Justices Grantham and Collins, to obtain a *mandamus* to compel the magistrate to state a case.

Now, although Mr. Justice Collins in the case next to be described said it might be that the meaning of the statute was that a person should not pretend to be a registered doctor of medicine, and that if it was proved that he called himself M.D. without having the right to be registered, and knowing that he had not the right, he would be guilty of an offence under the Act, he nevertheless agreed with Mr. Justice Grantham in discharging the rule on the ground that there was no evidence that Frickart used the name M.D. wilfully or falsely "implying that she was registered under the Medical Act, or that she was recognized by law as a physician, doctor of medicine," &c. (*Vide* Clause 40, Med. Act, 1858.) If Frickart did not style herself M.D. for these purposes it would have added very greatly to the interest of the case if the Court had thrown out some suggestion as to why she called herself by a recognised title. That, however, was apparently too much to ask for, and the decision of the Court was further rendered inextricably confusing by Mr. Justice Grantham stating that one of the cases cited by Mr. Muir Mackenzie, Q.C., counsel for the Union in support of the appeal—viz., "Steele *v.* Ormsby"—appeared to him to be very much in favour of Frickart.

Now, considering that in "Steele *v.* Ormsby" a person was convicted on evidence obtained by the Medical Defence Union, and punished under the very same Clause 40 of the Medical Act, 1858, for employing the title M.D., he not being on the Register or possessing any registrable title, it is exceedingly difficult to follow Mr. Justice Grantham in his expression of opinion.

This attempt, therefore, on the part of the Medical Defence Union to maintain the character of the profession and the purity of its register, has been frustrated by the High Court. Such disinclination of the Courts to maintain a high standard of medical practice compares very unfavourably with the punishments they meet out to persons who describe themselves and practise as solicitors without being on the rolls, and, unfortunately, the experience of the Medical Defence Union has so far uniformly been that the Courts are disposed to be extremely lenient to quacks, no matter how much suffering they may have caused, or how much fraud and robbery they may have executed.

In this instance, moreover, the prosecution was instituted solely in the interests of the public for their protection, and yet the protection was accorded not to them, but to the unregistered, unqualified person.

In the second case—"Reg. *v.* Lewis and Bridgwater"—again prosecution was undertaken by the union under Clause 40, Med. Act, 1858. In this instance the person prosecuted was a quack who flourished before his dupes a bogus degree, M.D., U.S.A., and who now, in consequence of Justices Grantham and Collins's decision, advertises freely in Cardiff that his degree and that his position are established by the High Court, and he gratefully acknowledges with characteristic (but shall we say unreasonable?) impudence the recognition of his position by the learned Court.

The fact is that, as every educated person knows, the Federal Government, U.S.A., does not grant degrees.

Let me here interpolate a case of M.D., U.S.A., in which the union was applied to. An alderman in one of the northern Midland counties was treated by a quack calling himself M.D., U.S.A., and one of the *employés* of "Warner's Safe Cure" Company with that stuff. An inquest naturally followed, and the coroner asked why the medical profession did not prosecute such unqualified persons. It is to be hoped that the coroners will now address themselves to the High Courts.

The elementary question as to whether the person (Bridgwater) held any degree at all, though actually made in the case of Frickart a point by the Court against the union, was not noticed in the case of Bridgwater, who now, though wholly unqualified, boasts of the imprimatur bestowed upon his acts, and is greatly encouraged in the use of the honourable degree he bestowed upon himself and which the Courts, so to speak, have again conferred upon him. The public are not to imagine that this is the first case of the kind. We have successfully prosecuted a similar quack—"Reg. *v.* Ferdinand" (12 *The Times* Law Reports, 135), and maintained an appeal made by Ferdinand, not to the High Court, but to the quarter sessions. But although the precedent was thus established and justice and the law vindicated, the whole subject is thrown into confusion by Justices Grantham and Collins.

Although the latter himself sat with Mr. Justice Wright on the case of "Steele *v.* Ormsby" and quite agreed in that important judgment, he (Mr. Justice Collins) said in the Bridgwater case that the law on the subject is in a fog, and that he could not say which were decisions of law and which of fact.

To the ordinary mind it may be a little depressing to hear that decisions of law may be quite distinct from the facts of a case, but any one who has been compelled to take cases into the Courts knows the comparative worthlessness of facts, and, if the records of these cases during the last twenty years are taken the judgments will be found to balance first on one side and then on another, the higher

Courts saying first that the question is one of facts for the magistrate to decide and then for themselves. and now by these recent decisions it is back again to the magistrate.

It is obvious from the experience of the union's work that what the Courts require is something simpler than the present Act, which appears to offer difficulties and obstacles not discernible by ordinary vision and any honest endeavour to surmount which appears to give support and impetus to quackery.

Doubtless, since the legal profession protects itself and the public so well and efficiently, those interested in the progress of medicine will help to obtain absolute statutory authority for the Register, so that Clause 40 of the Medical Act, 1858, shall provide that any person who shall practise medicine, surgery, &c., and is not on the Register shall be liable to penalty. Of course, it is quite clear that this is what the present statute says ; but the public is under the Courts, and, therefore, if the Courts find it impossible to understand the law, the public must, in its own interest, move the Houses of Parliament to amend the statute.

The British Medical Association has had the subject under consideration for some time, and draft proposals will doubtless be soon forthcoming. Will you allow me, in conclusion, to state, since in the Frickart case the council of the Medical Defence Union instituted the prosecution both in the material interests of the community at large and to vindicate the honour and reputation of the profession, that they feel specially aggrieved that their efforts should have been temporarily repulsed by a High Court of Justice?

Yours faithfully,

VICTOR HORSLEY.

President of the Medical Defence Union.

The Medical Defence Union,
20 *&* 21, *King William Street*,
Strand, *W.C.*

To the Editor of the "Times."

SIR,—Your timely leading article in to-day's issue regarding the state of the law relating to medical and dental practice ought to some extent attract attention to the inefficient protection afforded to the general public by the Acts of Parliament now in force for the regulation of these professions.

These Acts empower the General Medical Council of Great Britain to impose certain conditions on students prior to their entering upon the study of medicine and surgery or dentistry.

This same council regulates the curriculum of the student during his studies, and also the period of time which must be spent in acquiring the knowledge requisite for his examinations. It further appoints assessors to attend at the periodical examinations of the different examining bodies, and to report upon the efficiency of the examinations which the student must pass before he can receive his diplomas. All this and all other necessary expenses for the maintenance of the General Medical Council are met by a direct tax upon the medical man before he commences his professional career.

That this arrangement is advisable and necessary for the future medical or dental practitioner is readily admitted by the professions, and that it is equally necessary for the welfare of the general public is also clearly recognised by every qualified man.

The Legislature has not been reluctant to confer such powers on the General Medical Council, and the professions named have readily acquiesced in whatever regulations have been imposed upon them in the interests of the public weal; but, as may be seen from your leader, the Legislature has not shown equal readiness to make any recognition of the expenses entailed in meeting the educational demands made upon the medical and dental practitioners. These gentlemen are now, as before any such onerous conditions were imposed, practically on an equality with any charlatan who may tramp the country as a pedlar or march in procession with a gilded chariot and brass band Indian oculists, herbalists, bone-setters, and others of their species are free to puff ignorance and decry education, and practically to tell the public that the educational qualifications required by our governing bodies through Parliamentary powers are quite unnecessary, and are imposed in a trade union spirit for class purposes.

Although the professions suffer in a measure from this condition of affairs your article points clearly to the fact that the public suffers in a degree quite beyond what is generally supposed.

Such cases as the Indian oculists and Priestley's do not stand alone. Those who have access to information know that these are but glaring examples of what in a modified degree is of daily and hourly occurrence.

As pointed out by you, sir, this state of things must, and will, go on whilst the general public show their deep-seated jealousy of professional men.

While the true professional man seeks to mitigate pain and extirpate disease of all kinds, and in doing so, according to all commercial tenets, thereby cuts off the sources of his income, the charlatan occupies himself by trading on the misfortunes of humanity, by promises made to suit the enfeebled mind of the sufferer or the impatience of robust ignorance.

How long this inconsistency of legislation and unreasoning public jealousy may continue is hard to tell, but in the name of the Association which I represent I thank you for your valuable article.

Yours obediently,
W. B. PATERSON, F.R.C.S., L.D.S.,
Hon. Secretary British Dental Association.

British Dental Association,
40, *Leicester Square,*
May 28.

To the Editor of the "Times."

SIR,—In your leading article on "R. *v.* Priestley" you have drawn attention to a serious danger which threatens the public, and have lent the aid of your valuable influence to assist the efforts of the medical profession in promoting by legislation a reform that is so urgently needed.

In the prosecution of the "Indian Oculists" our Association found that it was only too true that quacks can in a great measure practise with impunity, and that in the present state of the law it was useless to expend money in endeavouring to protect the public against them. Only quite recently, however, two cases have occurred in the work of the Medical Defence Union, which show very clearly the uncertainty of the law on this subject. A short time ago ("R. *v.* Ferdinand") a quack was prosecuted before one of the London stipendiaries on the ground that, not being on the Medical Register, he used the title M.D., U.S.A. He was convicted, and on appeal the conviction was confirmed at the Middlesex Sessions. Last week the principle of this conviction was altogether upset by a decision of the Divisional Court in "R. *v.* Lewis and Bridgwater," where Justices Grantham and Collins discharged a rule for a *mandamus* to the Cardiff stipendiary to rehear a case almost identical with "R. *v.* Ferdinand."

In the second case the defendant was a female doctor, who had been struck off the Medical Register for conduct "infamous in a professional respect," and was using the title of M.D. Zurich for the purpose of carrying on a medical practice, but was similarly protected by the judges.

If the decisions of the Divisional Court are right, then it would appear Ferdinand was unjustly punished, and it is of the greatest importance to the public that our judicial tribunals should not give such conflicting decisions on matters so largely affecting their interest.

I am, yours truly,
MAJOR GREENWOOD, M.D., LL.B.,
Hon. Secretary N.E. Division of London and Counties Medical Protection Association.

Common-room, Lincoln's Inn,
May 28.

Death under Chloroform.

Marthen (*Berl. klin. Woch.*, March 9, 1896) records a fatal case and discusses the cause of death occurring a few hours up to a few days after the narcosis. About 70 c.cm. of chloroform was administered to a woman, aged 32, suffering from melancholia, for the purpose of having fourteen stumps extracted, the mouth being in a very unhealthy state. The patient vomited many times after the anæsthesia. On the next day the vomiting persisted, and there was slight jaundice. The pulse began to be accelerated, and on the following day the urine contained albumen. On the next day the patient became restless, and the pulse rapidly increased in frequency (150). The pupils were widely dilated, and Cheyne-Stokes breathing supervened. Death occurred three days after the administration of chloroform. At the necropsy there was recent fatty degeneration of the heart muscle and of both kidneys, as well as of the liver. The cardiac muscle fibres looked cloudy and granular, but the striation was mostly still visible. A few fibres, however, had an opaque, homogeneous appearance. The liver cells showed fatty degeneration. The renal cells were markedly swollen, cloudy, and granular looking. In this as well as E. Fraenkel's five cases there was but little fever. The pulse steadily deteriorated, but this has not always been the case in the recorded instances. The vomiting was intractable. In cases of marked vomiting after chloroform narcosis the urine should always be examined. Although the symptoms due to the after-effects of chloroform anæsthesia are variable, yet a diagnosis is possible. Recovery occurs at times. As in phosphorus poisoning, a steady deterioration in the patient's condition is of very unfavourable import. In experiments on animals the heart suffers chiefly, but this is not so in man. In three out of Fraenkel's five cases fragmentation of the cardiac muscle fibres was observed, and this was also present in the author's case. In fatal cases the renal affection attains a marked degree. In the liver necrosis of the parenchyma and degeneration of the inner portions of the acini accompany the peripheral fatty infiltration.—*The British Medical Journal.*

A Case of Interest.

On May 27, at St. Bartholomew's Hospital, Mr. Samuel Langham held an inquiry with reference to the death of Rosina Elizabeth Foster, aged 14½ years, a box-maker, lately living at 27, Shaftesbury Place, Aldersgate Street. Sarah Ann Foster, the mother, stated that for some weeks the deceased had suffered terrible pain through the decay of a bad tooth. On Monday week she was so ill that she went to the hospital with the intention of having the tooth extracted. She was detained in the hospital, and the following day witness heard she was dead. Dr. John Michel, house physician, stated that deceased was placed under gas and the tooth satisfactorily removed, but it was considered advisable to keep her in the hospital, and death took place very suddenly the following day. The autopsy showed that death was due to inflammation of the brain, of very rapid development, but whether it was caused through the operation or the effect of the gas was uncertain, although he did not think so. Several of the hospital physicians saw the deceased just before her death, but not one of them could diagnose the case, and inflammation of the brain was not at all visible during life. It was the most extraordinary case that had ever come under the notice of the hospital staff. The general impression of all was that the inflammation was not set up by the tooth, but there was absolutely nothing to show any other cause. The jury returned a verdict "That the deceased died from inflammation of the brain, but how set up the evidence failed to show."—*The Morning.*

New Inventions, &c.

Effervescent Lithia Citrate Tabloids.

We have received from Messrs. Burroughs, Wellcome & Co. a specimen bottle of Effervescent Lithia Citrate "Tabloids." Each "Tabloid" contains exactly four grains of citrate of lithia. It may be taken in one of three ways—by dissolving in water, the solution being swallowed after effervescence has ceased; by crushing, stirring with a wineglassfull of water and taking as an effervescent draught; or by placing on the tongue and allowing it to dissolve slowly. Probably the last method is at the same time the most pleasant and most convenient, the piquant effervescence on the tongue entirely covering the peculiar taste of the drug.

Citrate of lithia is very soluble, and more prompt in its action than the carbonate, and should have a very wide sphere of usefulness in those states of the system in which urates are deposited in the tissues and are present in the animal fluids. Citrate of lithia should prove a useful drug in cases of "gouty pyorrhœa alveolaris."

Miscellanea.

Royal College of Surgeons in Ireland.

The following gentlemen having passed the necessary examination have been admitted Licentiates in Dental Surgery of the College:—E. C. H. Jessop (Oxford), A. D. Miller (Birmingham), F. Sievers (London), T. W. Turner (Birmingham), S. G. Yates (Ross).

Royal College of Surgeons of Edinburgh.

During the April examinations the following gentlemen passed the first professional examination for the licence in Dental Surgery:—William Alexander Stewart (Perth); Alfred William Wellings (Salop); Alexander Ballantyne Mackenzie (Inverness); Carl Lotinga (Newcastle); Robert Charles Hillman (Ilkley); Edwin Robinson (South Shields); James Irvine Wilson (Glasgow); Victor Hippolyte Blane (Edinburgh); Charles Nelson Park (Campbeltown); George Herbert Harding (Liverpool); Louis Anderson Dunn (Edinburgh); William Henry Menmuir (Montrose); Alfred Branson (Rotherham), and Robert William Markham (London).

The following gentlemen having passed the final examination were admitted L.D.S.Edinburgh:—John William Edward Stewart (Dundee); Herbert Percival Friend (Farnley); John Morris Stewart (Edinburgh); John Kirke Nash (Edinburgh); Edward William Albert Jeffery (Hastings); Robert Anderson Dickson (Glasgow); Samuel Homer (Stourbridge); Frederick Stephen Gregory (Edinburgh); Charles Albert Lightfoot (Newcastle-on-Tyne); Robert Jones (Pen y Bwleh); Tom Tinley Tinley (Whitby), and Archibald Roland Maclean (Portobello).

Action for Malpraxis against an Unregistered "Dentist."

An action has recently been tried at the Birmingham county court, in which a labourer sought to recover damages for unskilful treatment from a druggist who was not a registered dentist. The facts of the case are briefly these. The plaintiff in June of last year went to a branch establishment belonging to the defendant to have a tooth extracted. He was seen by an assistant, whose name also does not appear on the Dentists' Register, and who made a fruitless endeavour to remove the tooth, and then suggested that the plaintiff should go to a proper dentist to get the remaining portion of the stump extracted. As far as can be gathered from the report the face and neck were swollen at the time of the operation. On the following day a medical man was called in and he stated that the bone had been splintered by the attempt to remove the tooth. After being five weeks under the care of the medical man the plaintiff went to Queen's Hospital, where some necrosed bone was removed, the patient not being able to resume his work until April 15 of this year. For the defence a dentist was called, who stated that he had known the assistant for four or five years and considered him a competent operator. The jury returned a verdict in favour of the defendant. In reviewing the facts of the case it would be difficult to say whether the necrosis was the result of the operation or the condition calling for extraction of the tooth, and still further it would be difficult to say whether the operation was performed skilfully or unskilfully. The point, however, which must not be overlooked, is that there was no evidence beyond that of the dentist called for the defence that the assistant in question possessed the necessary skill. He was not registered, and admitted in his evidence that he had not been apprenticed to a dentist, so that we may certainly question whether he possessed the requisite knowledge. The case is one of those which helps to point out the fact that better legislation is required to guard the public against unqualified practitioners whose knowledge is generally but slight, and whose skill can usually be gauged at about the same standard.

Fatal Syncope following Tooth Extraction.

For the notes of this case we are indebted to the kindness of Dr. Geo. Gifford:—

Hannah Maria Hubbold, wife of a licensed victualler, of Quarry Bank, had a tooth—first lower molar left—extracted by Thomas Hodgson on the night of the 13th inst. She immediately felt faint and was given some brandy, with, however, only transient effect, as within a minute or two she fell out of the chair, in which she had been *seated* all the time, dead.

With the assistance of Dr. De Denne, of Cradley, a *post-mortem* was made two days after. There was a considerable deposit of sub-epicardial fat. The coronary arteries appeared normal. Both ventricles were pale and flabby. The wall of the left ventricle was remarkably thin and anæmic. The musculi papillares showed the characteristic striation of fatty degeneration, and to this cause may be assigned the syncope, as the other organs were healthy.

The Dental Department of the Sheffield Royal Hospital.

The Dental Department of the Sheffield Royal Hospital is now complete, and will be opened for the treatment of patients about the middle of the month. The rooms set apart for this department form a portion of the new out-patient buildings of the Royal Hospital, which was opened by the Duke and Duchess of York in May of last year. The accommodation consists of a conservation room with four chairs, an extracting and anæsthetic room each containing one dental chair, and a small retiring room. Two rooms are also reserved in the basement, which may ultimately be utilised for prosthetic work. The Dental Manufacturing Company have supplied the chairs, engines and the necessary dental instruments; the cabinets and special furniture being by Mr. Woof, of Sheffield; the scheme of furnishing is the same as for the medical and surgical rooms, and the whole department presents a very modern, well-appointed and business-like appearance.

The dental staff consists of six members, one of which will attend each day in the week. Their qualified assistants are allowed to act in case of unavoidable absence. The staff is as follows:—Chas. Stokes, L.D.S.I., Chairman; R. C. H. Drabble, L.D.S.I.; J. Lee-Pike, L.D.S.Eng.; W. B. Tolputt, L.D.S.Glas., Hon. Sec.; Frank Harrison, M.R.C.S.Eng., L.D.S.Edin; Frank Mordaunt, L.D.S.Eng.

By the kindness of the Board the demonstrations in connection with the forthcoming meeting of the Midland Branch of our Association will be held in the new rooms, so that members attending the meeting will have the opportunity of inspecting the new out-patient department of the Royal Hospital, which is one of the most complete institutions of its kind in the country.

Correspondence.

We do not hold ourselves responsible for the views expressed by our correspondents.

Advertising Dentists.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—The letter of "A Middle-Class Practitioner" is in some respects similar to others that have from time to time appeared in your columns and elsewhere.

Of course it is very immoral of anyone to practise dentistry who is not registered, and very foolish of the public to patronise unregistered men ; but while we are waiting for some beneficent action to take place that will at once and for ever wipe the illegitimate practitioner out of existence, it may be well to look some things squarely in the face as they now exist. I am Philistine enough to think that the making and fitting of a set of artificial teeth is comparable to the making and fitting of a suit of clothes, or a lady's dress. There are a limited number of first-class tailors and dressmakers (for first-class people in any calling are rare) and they cater for a class who can appreciate first-class work and style, and have the money to pay for it. Then comes what may be called a middle-class, and then those who do slop work with shoddy materials, and who cater for a class who either can only appreciate the cheapest goods, or else have not the money to buy anything better. The mistake that some dentists appear to make, is in thinking that the Act of 1878 relieves them from the anxieties and struggles that fall to the lot of the majority who have to earn their living in any walk of life ; some seem to imagine that it has also rendered the exercise of ordinary common sense unnecessary. If a dentist is capable of first-class work he must locate himself where there is a demand for it. If he prefers to do the best work no matter how small the fee may be, by all means let him do it, but he should not grumble if it does not lead to financial success. If he is a good average sort of a man, and is located in a shoddy and slop work district, or in one where the older men have got all the cream, he must content himself with the milk and even the skim-milk, and if he wants to pay his butcher and his baker—not to speak of the dental depôts—he will probably have to work accordingly, or move to a more favourable place (unless he is an exceptional man with capital to wait).

The demand for shoddy work will always exist, and even if only duly qualified practitioners were in existence, the probabilities are it would be supplied. The dreadfully bad work of the unregistered quack is always alluded to, but it is absurd to think that the more intelligent of the public will stand bad work unless they happen to be too poor to pay for anything else, and there are enough intelligent people about to keep good dentists busy. Some dentists also appear to think that practising under the ægis of the Dental Act gives them the right to turn out very ordinary work for very high fees, but if this should not lead to a large balance at the bank it is hardly to be wondered at. As a matter of fact the cheap-jack can only at the best give value for money, and the best means of competing with him is to do better work. Good work at reasonable but adequate fees joined to the other qualities that are necessary for success will enable a dentist to gain a respectable living, unless he has pitched his tent without regard to locality, or unless he should be exceptionally unlucky. The demand for dental service is increasing. The appreciation of good work is certainly not diminishing, and the dental profession is certainly not over-crowded. Mr. Constant points out that the increased demand for conservative operations is probably diminishing the call for artificial teeth, but a dentist is not relieved from the necessity of keeping up with the times any more than anyone else is.

Another point worthy of consideration is that the dental act was passed for the benefit of the public, and not in the interest of the dentist. If, therefore, the Act fails to benefit the dentist is it logical to complain? It is, of course, sad to think that owing to ignorance many of the public are not receiving the fullest benefit of it; but how is this to be remedied? Each dentist can do something to educate the public through his own patients, but much that is said to our patients goes in at one ear and out at the other, and the benefit to the public at large is not very great. It has been suggested that lecturers might travel the country, but I fail to see where the sinews of war are to come from, and even if this difficulty were overcome I hardly think audiences would be attracted unless a brass band, and monkey tricks on the platform, "*à la* Sequah," were included. The issuing of a pamphlet by the Association has been suggested, but has not found favour. Everyone would probably have a different idea as to what it should contain, &c. The only feasible thing would be for dentists individually to issue plain, straightforward, decent pamphlets. This would, however, never do, for it would attract attention to the individual and perhaps increase his practice. To attract attention by any direct means is unprofessional. So we must quietly stand by and see the public deluded and plundered and make no effort to save them, hoping that in the course of a few hundred years things will right themselves. Every now and then, urged on by the malcontents, the British Dental Association arises in its might and prosecutes some poor miserable man who practises down a back street, but what good does this do? Mr. Constant's suggestion of going in for a good big prosecution is admirable, but where is the money to come from? Law is expensive, and in a case of this kind appeals to higher courts would have to be reckoned with. The funds of the Association are not large enough, and if an appeal was made to the members I doubt if much money would come in. Anyhow, Mr. Editor, if you are inclined to try, I will subscribe a guinea, and if a thousand pounds is obtained for this purpose from the profession within a year, I wil subscribe four more guineas: and even a thousand pounds will not go far.

In conclusion, I beg to say that I am not taking any exception to the letter of "A Middle-class Practitioner," nor has it been particularly in my mind in expressing these opinions. They were formed some time ago after reading a number of letters of complaint.

Yours faithfully,
EXCAVATOR.

Transplantation.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—In your last issue I read an interesting case of "Transplantation," by Mr. John A. Fothergill. Perhaps the following one may also interest your readers:—

In December, 1874, I extracted two upper lateral incisors from the mouth of a boy in order to relieve an over-crowded state of the teeth. These were inserted in about half-an-hour into sockets of similar teeth, removed from the mother for caries. The importance of removing the pulps of transplanted teeth was not at that time recognised and was not carried out in this case. Twelve months subsequently an alveolar abscess occurred in connection with the left lateral incisor which rapidly subsided under treatment by drilling a "vent" and bread poultices.

I saw this patient quite recently, that is, more than twenty-one years after the operation, and these teeth are still *in situ*, and although somewhat loose are in as good a condition as the rest of her teeth. The right lateral is distinctly sensitive to thermal changes. Can the pulp be still alive?

I may be criticised for drilling a "vent" and leaving it, and from time to time have hesitated whether to open up the nerve canal and fill or not, but the axiom "let sleeping dogs lie" has prevailed, and I think that the result has justified my treatment.

Yours faithfully,
W. SCOTT THOMSON, M.R.C.S., L.D.S.

62, *Brook Street, W.*
May 27, 1896.

One of the Properties of Herbst Gold Foil.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—Dr. Otolengui, in his excellent articles, now reprinted in book form, advises the use of No. 3 gold foil in finishing amalgams. I had considerable trouble with all the foils I tried, though following his directions. I find, however, that with No. 4 Herbst, there is not the slightest trouble in making the gold adhere to the amalgam, in fact, it sticks just as it would to a partially completed cohesive gold filling.

I merely mention this property in order to place it on record, but I can quite see that it may be of great service in many dental operations, *e.g.*, the combination of gold with amalgam, a method to which I have given some attention in other pages (*Dental Record*, vol. ix., p. 385).

The amalgam I am using is Damman's gold amalgam, which in my opinion, fully possesses all the good qualities its inventor claims for it.

Yours truly,
W. M. GABRIEL, M.R.C.S., L.D.S.Eng.

Dental Advertising.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—Your leader of May states that I have failed in my endeavours to induce the Representative Board to take in hand the suppression of dental advertising by registered dentists, because my ideas have been too lofty—and it then goes off into a paroxsysm of fright as to what the newspapers would say.

The previous record of the proceedings of the Representative Board had been that Dr. Walker had moved that the opinion of learned counsel be taken as to the powers of the General Medical Council to strike off the Register persons guilty of advertising—and as to whether the General Medical Council would be able to maintain its position before a court of law, should it do so. From the first I had quoted the opinions of several judges that the Council would be able to vindicate its position; Mr. Smith Turner thought otherwise; but being of course, anxious as a sensible and reasonable man, to be on safe legal ground, I accepted Dr. Walker's resolution, with my seconder's consent, Mr. Murray of Dublin.

We accepted this in perfect good faith, and would have been on our part prepared to abide by Counsel's opinion had it gone adversely to us, even though Sir Dyce Duckworth had urged that cases should be presented to the General Medical Council to be dealt with.

The opinion of two learned Counsel—especially chosen by the executive (I had nothing to do with their selection)—completely bore out my view of the law of the question, and maintained the power of the General Medical Council as absolute. Three good cases had been prepared as test cases—cases there could be no possibility of doubt would have entailed conviction; but to my amazement the Representative Board, led by Mr. Smith Turner, passed a resolution proposed by Mr. Lawrence Read, and seconded by our future President, Mr. Canton, refusing to present the cases by eighteen to seven—the former resolution for taking Counsel's opinion having been passed by twenty-five to one.

Yet, sir, members of that Board have not hesitated to say they are as opposed to dental advertising as I am—they looked upon it as disgraceful in a professional respect; and they were petitioned by over a hundred members to proceed, and they well knew the General Medical Council were only waiting for the cases to do their duty. It is needless to say that, after this second rebuff at the hands of our Representative Board I shall not take the trouble to bring this matter before it again. There are other ways of approaching the General Medical Council. I feel, after a month's consideration and consultation with friends who have supported me in this endeavour of several years' duration, that the conduct of some of the members of the Representative Board has been so utterly disingenuous that it would be sheer waste of my time and theirs to pursue the question further under the present constitution of the Board. As you, sir—or perhaps I should say the executive—thought fit not to publish any account of the proceedings in reference to dental advertising, but only endeavoured to cast a slur upon me as a sort of hypochondriacal individual with a craze, I think it right to myself, and to those who have so kindly given me their confidence and support, that the true facts of the case should be stated. It is not so long ago that you referred to forty-four members of the Midland Branch as the Three Tailors of Tooley Street. It may be possible to take the opinion of the members at the Annual General Meeting in August—if anyone is bold enough still to think it best to move, in what some have advised, as a constitutional manner.

I am, sir,
Your obedient servant,
Nottingham. HENRY BLANDY.

Appointment.

ERNST F. B. BFYER, L.D.S.Eng., to be Dental House Surgeon to the Victoria Dental Hospital, Manchester.

Books Received.

The International Journal of Microscopy and Natural Science, the Journal of the Postal Microscopical Society.

The Dental Journal (University of Michigan), Vierteljahrsschrift für Zahnheilkunde, Revue Odontologique, The Dental Digest, Le Progrès Dentaire, The Dental Register, La Odontologia, Transactions of the Odontological Society of Great Britain, Deutsche Monatschrift für Zahnheilkunde, Pediatrics, The Dental Review, The International Dental Journal, The British Journal of Dental Science, The Pharmaceutical Journal, The Chemist and Druggist, The Medical Press and Circular, Texas Dental Journal, The Dublin Journal of Medical Science, Correspondenzblatt für Zahnärzte, The Birmingham Medical Journal, Items of Interest, The Pennsylvania School Journal, Guy's Hospital Gazette, L'Odontologie et la Revue Internationale d'Odontologie, Odontologische Blatter für Centrab. nord. und ost Europa, The Dominion Dental Journal, Students' Journal (Liverpool Dental Hospital), Transactions of the Odonto-Chirurgical Society.

Letters and other Communications received from :—

F. V. Richardson ; J. H. Edwards ; Messrs. Burroughs, Wellcome & Co. ; Royal College of Surgeons of Edinburgh ; W. M. Gabriel ; W. Cass Grayston ; W. D. Moon ; Thomas North ; The Registrar of the Royal College of Surgeons in Ireland ; G. Gifford ; W. Scott Thomson ; H. Blandy ; F. Harrison ; A. E. Donagan ; W. H. Rhodes.

Note.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL

OF THE

BRITISH DENTAL ASSOCIATION

A

MONTHLY REVIEW OF DENTAL SURGERY.

No. 7. JULY 15, 1896. Vol. XVII.

The Annual General Meeting.

For the fourth time in the history of the Association the Annual Meeting is to be held in London, and a glance at the programme printed on another page will show that all the arrangements are practically completed, and that nothing seems to have been left undone to ensure a most successful meeting. As year by year the Association has grown in strength, so the amount of work to be transacted at these annual gatherings has increased, so much so that during recent years the want of more time has been keenly felt. This is to be remedied, at any rate this year, by extending the meeting an extra day—the business being fixed to commence on the Wednesday instead of the Thursday as heretofore. Three clear days will therefore be available for the transaction of business. The Wednesday morning will be confined to the Presidential

Address and the discussion of various motions of which notice has been given; the afternoon of this day and the morning of Thursday are set apart for the reading and discussion of papers; while the demonstrations are to be given on Thursday afternoon and Friday morning, the concluding meeting taking place on Friday afternoon.

This arrangement of business will, we think, ensure due consideration and proper discussion of motions and papers, and will therefore be likely to lead to more useful results than can possibly be obtained when discussion is stifled for lack of time.

The demonstrations list is a long and valuable one, and will form a very attractive part of the meeting, while the list of papers to be read will no doubt produce some interesting and valuable discussions.

The Microscopical Section will have as its President Mr. A. S. Underwood, and one looks forward with pleasure to his opening address, the topic of which, if rumour speaks truly, is " Erosion."

Three other valuable contributions will be read before this section: by Mr. Hopewell Smith, on " Some Dental Lesions induced by Caries," Mr. Caush, on " Exostosis," and Mr. C. S. Tomes, " Notes on Dentinal Tubes and their Relation to other Channels and Spaces in the Dentine."

The social portion of the programme has been well looked after, and members are promised some pleasant entertainments. On Wednesday evening our hosts are to be the members of the Metropolitan Branch; on Thursday a garden party will be given by Mr. and Mrs. Mummery at the Manor House, Southall, Middlesex; on Saturday an excursion has been planned to include a visit up the Thames in the new saloon steamer, " Queen Elizabeth;" and last, but not least, our new President and Mrs. Canton will hold, on the Thursday night, a reception at the Royal College of Surgeons. Already we are indebted to the Conjoint Board for the loan of the Examination Hall, and this, with the permission granted by the Council of the College of Surgeons for the use of the Library Museum for the President's reception, shows how close are the bonds which unite the medical and the dental profession. Vaticination is proverbially dangerous, but everything seems to point to a most successful and pleasant gathering.

The Association *v.* Flax.

In another column will be found a report of a successful prosecution instituted by the Association at Eastbourne against one Jacques Flax, which resulted in his being fined five pounds and costs. The case presents some elements of interest, the summons alleging that he, not being registered under the Dentists Act of 1878, and not being then a legally qualified medical practitioner, did unlawfully take or use an addition title or description, namely, D.D.S., or some other name, title, addition or description implying that he was registered under the said Act, or was specially qualified to practise dentistry.

It was proved that he was an unregistered practitioner, and that outside his premises was a notice board with "American Artificial Teeth Company," J. Flax, D.D.S., meaning doctor of dental surgery," and that he said to a witness who called that he was a doctor of dental surgery, as could be seen by his diploma.

Inside, but not outside, there was a further notice to the effect that being duly qualfied in America and also registered in France he was not registered under the Dentists Act of 1878. Upon this he seems to have relied, and it is due to the defendant to say that he made no attempt at concealment, but was perfectly candid in answering questions put to him by the solicitor's clerk. The case is peculiar, and so far stands alone in some respects. Not only did the defendant refrain from using any specifically prohibited title, but he went so far as to put up a notice to say that he was not registered, though some exception might be taken to the wording of this notice, which rather would lead the reader to suppose that his non-registration in England was not because he could not get registration, but because it was not needed when he was registered elsewhere.

The defence naturally made the most of these points and was able to throw doubt upon there being a technical infringement on the first part of the indictment. The case then virtually turned upon the words or letters implying that he was specially qualified to practise dentistry.

On this the defence raised was, that, as the witness for the prosecution was not deceived by the letters D.D.S., there was no evidence before the court that any one was so deceived, and that the question whether the public would be deceived or not could not be considered. But this did not avail him much, and Mr. Turner, the counsel for the prosecution, was able to gain his contention that there was an implication that he was specially qualified to practise dentistry, defendant's counsel, however, giving notice of appeal; though there would seem to be little chance of his doing so successfully on the precise grounds set forth. The Association is to be congratulated upon having won this case, inasmuch as it reaches, for the first time amongst the prosecutions undertaken by them, a form of evasion of the Act which is not a little prevalent, that is to say, the employment here of titles which have no validity in this country, but which serve the purpose of telling the public that the user is specially qualified somewhere; whilst of course the public, having no real knowledge on the subject, are sure to read it as meaning qualified here, or at least as the holding of a qualification of equivalent value to our own.

The same sort of question has repeatedly arisen in respect of general medical practice; persons having called themselves M.D. U.S.A., &c., &c., have been prosecuted by various medical bodies, such as the Medical Defence Union, with varying success, though convictions have generally been obtained.

The moral which is pointed by such cases is that protection of title, though invaluable as far as it goes, and though it is all that we in common with the medical profession possess, now and again falls short of what is desirable, and we should join hands with the medical profession in the endeavour to get the question of practice as well as that of title regulated. But it is exceedingly uncertain whether, in the present state of public apathy on such subjects, and in view of the support given, even in quarters where more insight might well be expected, to quackery (in the wide sense of unqualified practice), there is any prospect of getting this done, and it therefore behoves us to make the best use of the powers at present in our hands. And as this case appears to mark an extension of these powers in a direction in which it is much needed, it is a very valuable and noteworthy one.

The Benevolent Fund.

The Hon. Sec. of the Benevolent Fund would be glad to hear from any gentleman having interest, and willing to exert the same, with a view to procuring admission of an aged and infirm dentist into a *home for life*. Any communications should be sent to the Hon. Sec. of the Fund, 11, Queen Anne Street, Cavendish Square, London, W.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

Election of Ten Members of the Representative Board.

THE following ten gentlemen were elected members of the Representative Board in 1893, and retire in August next in accordance with Bye-law 18. They are eligible for re-election :—George Cunningham, L.D.S.Eng., D.M.D.Harv., M.A.Cantab. (Cambridge); D. Corbett, Junr., F.R.C.S.I., B.A.Dub. (Dublin); Storer Bennett, F.R.C.S.Eng., L.R.C.P. Lond., L.D.S.Eng. (London); L. Matheson, L.D.S.Eng. (London); S. J. Hutchinson, M.R.C.S., L.D.S.Eng.; Fredk. Canton, L.R.C.P.Lond., M.R.C.S., L.D.S.Eng., L.S.A. (London); W. E. Harding, L.D.S.Eng. (Shrewsbury); J. H. Mummery, M.R.C.S., L.D.S.Eng. (London); A. S. Underwood, M.R.C.S., L.D.S.Eng. (London); W. B. MacLeod, F.R.S.E., L.D.S.Edin. (Edinburgh).

Nominations of new candidates for election must be sent to the Hon. Secretary at 40, Leicester Square, London, on or before July 25th inst., after which date ballot papers, containing the names of old members offering themselves for re-election and of new candidates, will be issued.

[*N.B.*—Nominations are of two kinds: (*a*) by branches; (*b*) by six members.] W. B. PATERSON, *Hon. Sec.*

The Annual General Meeting.

THE Annual General Meeting of the British Dental Association will be held in the Examination Hall of the Royal Colleges of Physicians and Surgeons, Victoria Embankment, London, on Wednesday, Thursday and Friday, August 12, 13 and 14.

The meeting will commence with a Reception and Conversazione by the Metropolitan Branch of the Association, at the Hotel Métropole, on the evening of Tuesday, August

11, and it will be followed on Saturday, August 15, by an excursion to Richmond-on-Thames, at the invitation of the London members.

List of Officers.

Retiring President:
W. Bowman MacLeod, F.R.S.E., L.D.S.Edin.
President-elect:
Frederick Canton, M.R.C.S., L.R.C.P., L.D.S.Eng., L.S.A.
President of the Representative Board:
J. Howard Mummery, M.R.C.S., L.D.S.Eng.
Treasurer: E. G. Betts, M.R.C.S., L.D.S.Eng., L.S.A.
Hon. Secretary: W. B. Paterson, F.R.C.S., L.D.S.Eng.

PROGRAMME OF PROCEEDINGS.

Tuesday Evening, August 11.

9 p.m.—Reception and Conversazione by the Metropolitan Branch at the Whitehall Rooms, Hotel Métropole. Exhibition of scientific apparatus, music, &c.

Wednesday, August 12.

9.30 a.m.—Meeting of the Representative Board in the Council Chamber of the Examination Hall.

11 a.m.—First General Meeting in the Theatre of the Examination Hall.

Valedictory Address of Mr. W. Bowman MacLeod.

Address of the President, Mr. Frederick Canton.

Reports of the Treasurer and Hon. Secretary.

Reports and business. Full particulars of which will be published in the Final Official Programme.

1.20 p.m.—Adjournment.

The London members will entertain the Provincial members and ladies at luncheon at the Hotel Métropole.

2.30 p.m. to 5 p.m.—Reading and discussion of Papers.

9 p.m.—Reception by the President of the Association and Mrs. Canton at the Royal College of Surgeons of England, Lincoln's Inn Fields. Refreshments, Music, &c. (The Library and Hunterian Museum will be open.) The Kinematograph will be exhibited in the Theatre.

Thursday, August 13.

9.30 a.m.—Annual Meeting of the subscribers and friends of the Dental Benevolent Fund in the Council Chamber of the Examination Hall.

Report by J. Ackery, M.R.C.S., L.D.S.Eng., the Hon. Secretary. Elections and other business.

10.30 a.m.—Second General Meeting in the Theatre for the reading and discussion of Papers.

1 p.m.—Adjournment.

The same arrangements for luncheon as on the previous day.

2 p.m. for 2.30 p.m. precisely.—Demonstrations at the Examination Hall. [Second floor suite of rooms.]

4 p.m.—Adjournment.

5 p.m. to 7.30 p.m.—Garden party. Mr. and Mrs. J. Howard Mummery kindly invite the members of the Association and ladies to the Manor House, Southall, Middlesex.

Train arrangements will be announced in the final programme.

Friday, August 14.

10 a.m. for 10.30 a.m. precisely.—Demonstrations at the Examination Hall.

1.20 p.m.—Adjournment.

The same arrangements for luncheon as on the previous day.

2.30 p.m.— Third General Meeting. Any adjourned business. Papers. Discussions. Concluding business of the Association.

7.15 p.m.—The Annual Dinner of the Association at the Whitehall Rooms, Hotel Métropole.

9 p.m.—Ladies' Entertainment in the Whitehall Drawing Room.

Saturday, August 15.

EXCURSION.

The new saloon steamer, "Queen Elizabeth," registered to carry 700 passengers, has been chartered for the day. It will lie alongside Westminster Pier, Victoria Embankment. It is proposed, in the first instance, to start not later than 10 a.m. for a short trip down river to view the Tower Bridge, the Tower of London, Customs House, and shipping in the Pool. The vessel will then return to Westminster Pier not later than 10.30 a.m. to embark those members and ladies who may be waiting there, and will immediately proceed up stream to

Twickenham, and from thence to Richmond, where luncheon will be served at 1.45 p.m. at the Star and Garter Hotel. The return to Westminster will be timed for 7.30 p.m. (Details will be published in the full programme to be issued later.)

THE MICROSCOPICAL SECTION.

President A. S. Underwood, M.R.C.S., L.D.S.Eng.

President-elect; A. W. W. Baker, M.D., M.C., F.R.C.S.I., L.D.S.I.

Hon Secretary: A. Hopewell Smith, M.R.C.S., L.R.C.P., L.D.S.Eng.

The meetings of the Microscopical Section will be held in

THE THEATRE OF THE EXAMINATION HALL

and commence on Thursday, August 13.

Opening address by the President.

Papers will be illustrated by means of the electric lantern :—

"Notes on Dentinal Tubes and their relation to other Channels and Spaces in Dentine," by C. S. Tomes, M.A., F.R.S., M.R.C.S., L.D.S.Eng.

J. H. Mummery, M.R.C.S., L.D.S.Eng. (on a subject not yet announced).

"Touch Bulbs in Dentine," by R. T. Stack, M.D.Dub., F.R.C.S.I., L.D.S.Eng., D.M.D.Harv.

"Exostosis," by D. E. Caush, L.D.S.I.

"Some Dental Lesions induced by Caries," by A. Hopewell Smith, M.R.C.S., L.R.C.P., L.D.S.Eng., &c.

An interesting series of skiagraphs of the teeth will be exhibited during the meeting by F. J. Bennett, M.R.C.S., L.D.S.Eng.

The microscopical exhibition will include sections and photomicrographs by Messrs. Tomes, Mummery, Underwood, Charters White, Bennett, Dencer Whittles, Rowney, the Hon. Sec., and others.

Demonstrations on the use of histological and other apparatus will be given. Further details to be announced later.

LIST OF DEMONSTRATIONS.

"Impression taking with Gutta-percha," also "The Büttner Crown in Conjunction with the Downie Furnace," by J. H. Badcock, M.R.C.S., L.R.C.P., L.D.S.Eng.

"A Method of Repairing Bridge Work by Soldering within the Mouth," by H. Baldwin, M.R.C.S., L.D.S.Eng.

"A Method of Treating absorbed, undeveloped, or perforated Roots by Sponge-grafting," by G. Brunton.

A Demonstration, by Storer Bennett, F.R.C.S., L.D.S.Eng., L.R.C.P.Lond.

"The Röntgen x Rays as applied to Dentistry, by means of Photography (and possibly by means of fluorescent screen)," by C. A. Clarke, L.D.S.I.

"On Filling Teeth with De Trey's Solila Gold," by J. Charters-Birch, L.D.S.I.

"Plastic Filling by the Aid of the Seamless Band Matrix," by Geo. Cunningham, M.A.Cantab., L.D.S.Eng., D.M.D.Harv.

"The Various Methods of Attaching the Newland Pedley Crown," by E. C. Dimock.

"Electro-guaiacocain-cataphoresis: its Application to Extraction, Sensitive Dentine, and Exposed Pulps," by H. B. Ezard, L.D.S.Edin.

"A Small Bridge to carry a Lateral Incisor," by W. M. Gabriel, M.R.C.S., L.D.S.Eng.

"Putting a Porcelain Facing on a live Honeycombed Incisor," by Peter Headridge, L.D.S.I.

"Porcelain Crowns, using the Downie Furnace," by Wm. Hern, M.R.C.S., L.D.S.Eng.

"A new Gas and Ether Apparatus; also Faulty Positions in administering Anæsthetics," by Fredk. Hewitt, M.A., M.D.Cantab.

"A Method of preparing and inserting Dove-tailed Porcelain Inlays in Incisor Teeth," by F. R. Howard, L.D.S.Eng.

"Filling Cervical Cavities with Gold by the help of the Herbst needle," by W. R. Humby, L.D.S.Eng.

"Plaster Impressions of the Mouth in easy and difficult cases," by W. A. Hunt. M.R.C.S., L.R.C.P.Lond.

"Fitting a Dowel Crown to a Living Front Tooth, working to a Model, and using, if practicable, one of Ash's New Crowns," by A. Jones, L.D.S.I., and R. P. Lennox.

"A Simple Method of making Richmond Crowns," by Vernon Knowles, L.D.S.Eng.

"Crowning, using the Downie Furnace," by W. J. May, L.D.S.Eng.

"A Series of Preparations showing a Method of Strengthening Vulcanite Plates," by C. R. Morley, L.D.S.Eng.

"The Röntgen Rays," by J. H. Mummery, M.R.C.S., L.D.S.Eng.

"Filling Teeth with Gold, and Tin and Gold," by H. W. Norman, L.D.S.Eng.

"Filling Posterior Interstitial Cavity in a Bicuspid with de Trey's Solila Gold, using a Matrix," by G. Northcroft, L.D.S.Eng., D.D.S.Mich.

"Nerve-Extraction," by E. Preedy, L.D.S.Eng. (This demonstration will be performed upon recently extracted teeth fixed in various positions in the Fergus head-piece.

"On the Logan Crown," by Claude Rogers, M.R.C.S., L.D.S.Eng., D.M.D.Harv.

"Platinum and Porcelain Crowns," by H. Rose, L.D.S.Eng.

"Making a Furnace for baking Porcelain," by Wm. Rushton, L.D.S.Eng.

"Crowning Front Teeth without Pins in the Root-Canal using only Band, Porcelain Front and Downie Body at Back," by G. O. WHITTAKER, L.D.S.Eng.

All communications relative to the Demonstrations should be addressed to H. BALDWIN, Hon. Sec., Demonstration Committee.

Papers have been promised by the following members :—

"Reminiscences of 54 years in the Dental Profession,' by A. J. WOODHOUSE, L.D.S.Eng.

"The Present and Future Condition of the Dental Profession," by J. O'DUFFY, L.D.S.I.

"Open Bite," by J. F. COLYER, M.R.C.S., L.R.C.P., L.D.S.Eng.

"Notes on Fracture and Hypoplasia," by S. SPOKES, M.R.C.S.Eng., L.D.S.Eng.

"Some Experiments in Bridge Work" (with lantern illustrations), by G. CUNNINGHAM, M.A.Cantab., L.D.S.Eng., D.M.D.Harv.

NOTICE.

Members having case books containing results of examination of school children's teeth, or other notes of similar examinations, are requested to forward the same to the Hon. Sec. of the Schools' Committee, 40, Leicester Square, London, W.C., at their earliest convenience.

EXHIBITS.

An Exhibition of Dental Instruments and Appliances will be on view in the Examination Hall (first floor suite of rooms) during the meeting, the leading manufacturing firms contributing.

Mr. C. D. Grundy, of Leeds, will exhibit his Hydraulic Swager, and will demonstrate its use and certain improvements in its construction.

SPECIAL NOTICES.

A reply postcard will be issued immediately to each member of the Association, requesting information as to whether or not he purposes attending the Annual General Meeting. *It is earnestly desired that members will return their answers at the earliest possible moment in order that arrangements may be facilitated.*

The Social Headquarters of the Association will be the Hotel Métropole, Whitehall Place.

Reading, Writing and Smoking Rooms will be set apart for the use of members. A special tariff for bed, breakfast and attendance will be provided.

Reading and Writing Rooms, postal and telegraphic facilities, will also be provided for the use of members at the Examination Hall.

Arrangements are in progress for the entertainment of the ladies attending the meeting.

Dr. Joseph and Mrs. Walker kindly invite the ladies to visit Knockholt Beeches to see the Kentish hop gardens, and to partake of luncheon in the hall there. Dr. Walker will provide the necessary train service and carriage arrangements. The date of the excursion is fixed for Friday, August 14, 10 a.m. to 4 p.m. Fuller details will be announced later.

Arrangements for other entertainments are in course of preparation. Some of the members of the Ladies' Committee will give Afternoon Teas.

The following Committees have charge of the arrangements for the meeting.

FINANCE AND GENERAL ARRANGEMENTS COMMITTEE.

Messrs. F. Canton, President of the Metropolitan Branch; J. Howard Mummery; J. Smith Turner; E. G. Betts; W. R. Humby, Treasurer of the Metropolitan Branch; S. Spokes, Hon. Secretary of the Metropolitan Branch; W. B. Paterson, Hon. Secretary of the Association.

DEMONSTRATION COMMITTEE.

L. Matheson (*Chairman*).
J. H. Badcock.
J. F. Colyer.
W. Hern.
W. H. Dolamore.
W. B. Paterson.
H. Baldwin (*Hon. Sec.*)
Members of the Finance Committee *ex-officio*.

ENTERTAINMENT COMMITTEE.

F. Canton (*Chairman*).
Dr. J. Walker.
Morton Smale.
D. Hepburn.

E. Lloyd-Williams.
A. S. Underwood.
W. B. Paterson (*Hon. Sec.*).
Members of the Finance Committee *ex-officio.*

LADIES' COMMITTEE.

Lady Tomes.
Mrs. Canton.
Miss Canton (*Hon. Sec.*).
Mrs. Betts.
Mrs. Hern.
Mrs. E. Lloyd-Williams.
Mrs. Matheson.
Mrs. Mummery.
Mrs. Spokes.
Mrs. Tomes.
Mrs. A. S. Underwood.
Mrs. Clayton Woodhouse.
Mrs. R. Woodhouse.
Mrs. Walker.

⁂ Suggestions for the improvement of the Programme of the Meeting, or notices of error or insufficiency of description in any of the above-mentioned matters should be communicated to

W. B. Paterson, *Hon. Sec.*

Scottish Branch.

The Annual Meeting of members was held on Saturday, June 6, at the Royal Hotel, Stirling, W. Bowman Macleod, L.D.S.Edin., president, in the chair. Amongst those present were: Wm. Taylor, James M'Cash, Thomas Wilson (Glasgow), Malcolm Macgregor, Robert Lindsay, D. Robertson Campbell, Herbert Ezard, J. G. Monroe, M. J. Macgregor, J. S. Amoore (Edinburgh), R. Keith Common, J. I. Platt (Stirling), James Stewart (Coatbridge), P. S. Walker (Dundee), E. J. Wallis (Alloa), &c., &c.

The Secretary, Mr. C. Rees Price, L.D.S.Eng., read the minutes of the previous meeting, which were approved of.

Thereafter the name of Mr. R. Keith Common, L.D.S.Edin., (Stirling), was submitted for membership, and a ballot being taken, the President declared Mr. Common unanimously elected a member of the Branch.

The Secretary then read his annual report as follows:—The Hon. Secretaries beg to report that the Scottish Branch commenced with a membership of sixty-eight, and during the year ten new members were elected, bringing the membership up to seventy-eight.

Three meetings have been held, two in Glasgow, one in Edinburgh. The latter was a demonstration meeting, and so far experimental, but as the members are aware, it was a great success; and bearing this in mind, it is suggested that a similar meeting be held, possibly in Glasgow, during the ensuing season, but it must be borne in mind that it is necessary that members be willing to give demonstrations of one kind or another. The two ordinary meetings held in Glasgow were not very well attended, particularly by members in the Western district, and the work of the hon. secretaries has been increased by the diffidence of the members in bringing forward casual communications or subjects of interest.

Six Council Meetings have been held during the year, three in Glasgow and three in Edinburgh. Various matters affecting the status of the dental profession and of the Branch members have been discussed and adjusted. The East and West District Committees have had several cases of alleged infringement of the Dentists Act before them, and most of them have been determined satisfactorily and happily without having recourse to extreme measures. At all times the hon. secretary of the Association and the Business Committee have given careful attention to any representations made to them.

The Council suggest that the present office bearers be elected for another year. It also suggests the names of four members of Council to replace those compulsorily retired. In either case it is of course open to members to propose other names at the annual meeting.

The Reports of the East and West District Committees were then read; also the duly audited report of the Hon. Treasurer, which showed a balance in hand of £28 8s.

The PRESIDENT said, I now rise with very great pleasure indeed to move the adoption of the various reports that have just been read. They are all very gratifying to us in that they show some decided progress is being made in the consolidation of the members of the profession in Scotland, and that we are, though slowly, moving onwards to the time when you will have the whole of the profession joined together in one association working for the common good.

Mr. J. S. AMOORE: I have much pleasure in seconding the reports, which are very satisfactory.

The reports were then approved of.

OFFICE BEARERS

The Council suggested that in place of the four members of Committee who retired by rotation the following gentlemen be elected:—H. B. Ezard, L.D.S.Edin. (Edinburgh); W. M. Fisher, L.D.S.Edin. (Dundee); W. H. Gray, L.D.S.Glas. (Glasgow); and F. Page, L.D.S. Edin. (Edinburgh).

The PRESIDENT explained that Mr. Page had declined nomination, and it was open for members to make any further nominations they pleased.

Mr. AMOORE moved that the vacancies on the Committee be filled by the gentlemen suggested by the Council, with the exception that Mr. Fred Turnbull, L.R.C.S., L.R.C.P., L.D.S.Edin., take the place of Mr. Page.

Mr. WILSON, Edinburgh, seconded, and the motion was agreed to.

Mr. REES PRICE then mentioned that at a Council Meeting held the previous evening he had brought before it certain suggestions of Mr. Ackery, the Hon. Secretary of the Benevolent Fund, with the object of increasing the interest in that Fund. In Mr. Ackery's hands the management of the Fund had been thoroughly re-organised, and it was more than ever deserving of the sympathy and support of every member of the Association. Mr. Ackery and the Committee were anxious to increase the number of annual subscribers, and with this in view he had suggested that the Council should ask certain members to take up districts and do their utmost by personal influence to obtain subscriptions from those who had hitherto not subscribed. The Council readily acceded to this request, and suggested the names of Dr. Williamson (Aberdeen) for the North of Scotland, Mr. Campbell (Dundee) for Central Scotland, Mr. J. S. Amoore for the Edinburgh district, and the Western Hon. Secretary for Glasgow. These members have all consented to do their best. It may be of interest to mention that last year the members of the Scottish Branch with seventy-four members, sent £24 in annual subscriptions, which works out at 31 per cent. ; this, with the exception of Ireland (29 per cent.), is the lowest branch percentage. Sixty-four per cent. of the Metropolitan Branch members are subscribers. Another matter may here be mentioned, viz., that the above-named members are willing to inquire into any cases of casual applications for benevolence which may be sent to them by members in their respective districts. This would ensure help where help is really needed, and would be deserving charity, and cases of professional begging (which are not unknown to some of us) would be properly dealt with.

Mr. AMOORE : I beg to endorse and to emphasize what Mr. Rees Price has said. I know Mr. Ackery as a good-hearted fellow, who has worked enthusiastically at the Benevolent Fund since he took it in hand. I had a case in Edinburgh, and the letters Mr. Ackery wrote, the particulars he inquired into, and the exactitude and care he manifested in everything, and his anxiety that all should be done that could possibly be done, and that in the best way so that we should not be taken advantage of, struck me as eminently keen and business-like. Any man who works as hard in a good work as Mr. Ackery does deserves to be supported heartily, and I am sure none of us will be behindhand in helping any cases if they are found to be worthy of support.

The PRESIDENT: We are all much obliged to Mr. Rees Price for bringing this matter before us. The Benevolent Fund is well worthy of support. No doubt when you begin to inquire into individual cases where help is asked for the widows and children, you might find fault with the deceased; but when a man is dead and gone we should throw over him the cloak of charity. In the administration of this Fund for behalf of the widows and orphans, we do not concern ourselves in any way whatever with the faults of the deceased during his lifetime. He is now dead and gone, and we do our best to remove the effect of the fault by helping those who have not contributed in the smallest degree to bringing this misfortune upon them. I know many who have not contributed a penny to the Fund are receiving support from it, and some people may find fault with this; but in the broader application of Christian charity we have nothing whatever to do with the fact whether a man contributed or not to the Fund. What we have to consider is, whether the applicants for relief are deserving, and require provision made for them. I know the Fund has done good; but there may be cases where it has not, and where it may have been taken advantage of by people who have little cause to claim help. I know that in Edinburgh there was one case in which I took an interest, and where I was imposed upon. I had a reference of character regarding the man whose misfortunes were attributed to what may be termed commercial inability. He ultimately died, and what was my surprise to read an advertisement in the newspapers stating that the man had left a considerable sum of money to the Queen as *ultimas haeres*. I lodged a claim with the *Queen's Remembrancer*, in virtue of the assistance we had given the man, and received some letters on the subject; and then there came a communication stating that a woman who said the deceased was her father had made claim for the money. The *Remembrancer* stated that if the woman succeeded in establishing her relationship to the deceased, she would, in accordance with the usual custom, get the estate. She did ultimately establish her claim, and the estate, consisting of £75 and goods and chattels, went to her. But though we find cases here and there of this kind, we must remember that on the whole the Fund is doing a real benefit, and that in doing good we are getting a capital return for our contributions. I thank you very much in the name of myself and the other office-bearers for our re-election. Last year when I took office I agreed to do it only on condition that I should be allowed to demit office this year; but during my absence from home your Committee evidently took things into their own hands, for on my return I found myself nominated for another year's office. As that matter had, no doubt, been thoroughly debated and settled in my absence, and as it was also the desire of the gentleman I intended to propose for the office that he should be allowed to keep himself aloof for another twelve months, I concluded it was the unanimous wish of the members that I should again allow myself to be nominated, and I did so.

The meeting was adjourned after the usual votes of thanks to the president and office-bearers.

The members present then proceeded in brakes to Donne, through the policies of Blair Drummond (by kind permission of Col. Horne Drummond), returning by Dunblane and the Bridge of Allan.

Later in the day dinner was served in the Royal Hotel, Mr. L. J. Platt, L.D.S.Edin., Stirling, being in the chair, and Mr. R. Keith Common, L.D.S.Edin., Stirling, acted as croupier. The Provost of Stirling, ex-Provost Yellowlees, Dr. Macfadyen, and Dr. Macnicol, were amongst the guests.

Southern Counties Branch.

OWING to great pressure on our space the report of the Annual General Meeting of the above Branch, held at Maidstone on Saturday, June 20, is unavoidably postponed to our next issue.

Midland Counties Branch.

THE sixteenth annual meeting of the members of the Midland Branch of the British Dental Association was held in Sheffield on Thursday, Friday and Saturday, June 25, 26 and 27.

The usual meeting of the Council was held on Thursday evening at the Wharncliffe Hotel, King Street. Several important matters of business were discussed, and the programme of business for the following day's conference was considered. Mr. J. Charles Storey, L.D.S., the retiring President, occupied the chair. A smoking concert followed, the music being supplied by local friends, and the visitors being received by Mr. Frank Harrison, President-elect; Mr. F. G. Mordaunt, who ably filled the duties of Hon. Sec. to the local Committee, Mr. Charles Stokes, and others.

The annual meeting took place on Friday, the business meeting being held in the morning in the Lecture Hall of Firth College, kindly placed at the disposal of the Committee by the College Council. Mr. J. C. Storey, the President, occupied the chair during the earlier portion of the proceedings. Amongst others present were :—Mr. Frank Harrison (President-elect), Mr. I. Renshaw (Hon. Secretary), Messrs. T. Audas (Hull); J. C. Birch (Leeds); H. Blandy (Nottingham); G. Brunton (Leeds); G. Broughton (Patricroft); T. Blyth (Hull); E. Catt (Scarborough); Alfred Cocker (Sowerby Bridge); Arthur Cocker (Halifax); C. H. Cooper (Bradford); F. Councell (Liverpool); F. Dale (Sheffield); R. C. H. Drabble (Sheffield); T. Gaddes (Harrogate); D. Headridge (Manchester); E. Houghton

(Manchester); T. Jackson (Lytham); J. H. Jones (Sale); R. F. H. King (Newark); A. E. Knowles (Stockton-on-Tees); G. H. Lodge (Rotherham); A. Lodge (Huddersfield); J. W. Lumley (Kirby Moorside); A. Alex. Mathews (Bradford); F. V. Minshall (Salford); S. Mitchell (Dewsbury); J. Moore (Stockport); T. H. Morrey (Ashton-under-Lyme); Thomas Murphy (Bolton); F. Mordaunt (Sheffield); W. H. Nichol (Leeds); C. Rippon (Dewsbury); C. Stokes (Sheffield); J. E. Sutton (Buxton); J. Taylor (Warrington); J. Pidgeon (Bootle); W. Taylor (Batley); A. P. Wallis (Doncaster); J. S. Wallis (Hull); A. B. Wolfenden (Halifax); and G. W. Wood (Retford.)

The HON. SECRETARY having read the minutes of the last annual meeting, and these having been signed by the President, he read letters of regret for enforced absence from Mr. R. Rogers (Cheltenham); W. E. Harding (Shrewsbury); A. G. Rayner (York); S. Wormald (vice-president) and G. G. Campion (hon. treasurer.)

The PRESIDENT said he very much regretted the absence of several of the gentlemen from whom letters had been read, particularly their old friends, Mr. S. Wormald, and the Hon. Treasurer, Mr. Campion. The Council the preceding night passed a resolution expressing the feeling of sympathy of all present with their dear friend, Mr. Campion's father, and he was sure they would all agree with this.

The HON. SECRETARY then read the following report:—

GENTLEMEN,—The sixteenth Annual Report of the operations of the Midland Branch of the British Dental Association for the year ending to-day, will, your Council venture to think, compare very favourably with the amount of work accomplished during any previous year.

There have been three meetings of the members during the year, commencing with the Annual Meeting held at Hull in June last, the Autumnal Meeting held at Preston in October, and the Winter Meeting held at York in February.

In connection with the Annual Meeting the business meeting was held at the Hull Royal Infirmary, kindly granted for the occasion by the governors, and demonstrations were performed at the same place as follows:—Mr. W. T. Madin (Birmingham), Extractions under N_2O + Air (Carter Braine's Method); Mr. J. W. Dent (Stockton-on-Tees), Extractions, N_2O + O (own method); Mr. Harry Rose (London), Demonstrations *re* Continuous Gum Work; Mr. G. Brunton (Leeds), (*a*) "Gold Filling with a Matrix," (*b*) "A New Method of Flasking Rubber Dentures"; Mr. Geo. Cunningham, M.A. (Cambridge), "Tinting Teeth for Special Cases"; Dr. F. P. Fernald (Cheltenham), "Fixing a Pivot Tooth"; Mr. W. E. Harding (Shrewsbury), "Immediate Root Filling"; Mr. F. Harrison (Sheffield), "Immediate Root Filling by Sulphuric Acid Method"; Mr. T. E. King (York), "On the Use of Soft Amalgam as a Protection for Temporary Fillings"; Mr.

R. P. Lennox (Cambridge), "Taking Impressions for Making Gold Crowns"; Mr. H. Wallis (Hull), "Newland Pedley Crown."

The afternoon meeting was held at the Council Chamber of the Town Hall, when a casual communication was given by Mr. J. A. Fothergill "On the Value of Collar Crowns as Attachments for Bands of Dentures. Mr. Blandy showed a Modified Hinged Articulator. Mr. F. Harrison read a paper on "Replantation," followed by a "Symposium" on the British Dental Association, viz. :—(1) What the British Dental Association has done for the Dental Profession, by the Hon. Sec. (I. Renshaw). (2) "What the British Dental Association ought to do for our Profession," by Dr. T. Gaddes (Harrogate). (3) "How the British Dental Association can help the Public to better Dental Service," by T. E. Constant (Scarborough).

These papers were considered of such general importance that it was decided to postpone the discussion of them to the autumnal meeting of the Branch, which was eventually held at Preston in the month of October, in the Town Hall.

The discussion was opened by Mr. G. G. Campion (for full report see Journal), followed by a letter from the President (Mr. J. C. Storey), and the discussion was continued by Messrs. N. Miller (Preston); R. Edwards (Liverpool); T. S. Carter (Leeds); F. Harrison (Sheffield); R. M. Capon (Liverpool); D. Headridge, P. Headridge, E. Houghton (Manchester); and E. A. Councell (Liverpool), following which the readers of the papers replied. At the conclusion of the meeting the Mayoress provided afternoon tea for the members and their friends.

At the winter meeting, held in February at York, Mr. J. T. Jameson (Newcastle) exhibited the Downie Furnace and described its capabilities. Mr. J. A. Fothergill (Darlington) sent a contribution on "Two Cases of Replantation," and Mr. Walter Glaisby (York) read a paper on "Necrosis of the Superior Maxillary Bone following Enteric Fever." Thus the interest at all the meetings has been well maintained and the attendance very good.

Your Council have met four times since the Annual Meeting, viz., at Preston in October, at Manchester in November, at Leeds in January, and at York in February, when matters of importance affecting the branch were considered; the most important being the answer to be given to the Representative Board to an inquiry as to the opinion of the members of the Midland Branch with reference to the alteration of Bye-laws 15 and 18 of the Association, in order that they may be so re-constructed as to enable the branches to elect representatives to the Representative Board instead of nominating them for election as heretofore. The reply sent to the Representative Board is as follows:—"Council of the Midland Branch is unanimously of the opinion that the branches of the Association should have the power of *electing* representatives to the Representative Board, instead of nominating them as at present, and is in favour of adopting the

Report of the Business Committee of June 11, 1892, with the exception that in its opinion the presidents of branches should not be included in the *ex-officio* members of the Board."

For the satisfaction of the members of this Branch, it may be interesting to state that in the early part of the present year the Executive of the Association instituted a prosecution against an unregistered practitioner residing within the area of the Midland Branch for using the title of dentist, in which prosecution they were successful.

The foregoing report will, I venture to think, be evidence to show that the Association and the Branch have been active in forwarding the objects of the Association during the past year.

There have been three resignations during the year, the membership of four has lapsed in consequence of non-payment of subscriptions to the Association. On the other hand, nine new members have been elected during the year, which brings up the membership to 175, one new member was elected to the Association and Branch at the Council Meeting held last night, making the numbers 176. During the year the members have contributed the sum of £12 8s. at their meetings on behalf of the Dental Benevolent Fund.

Rochdale. I. RENSHAW, *Hon. Sec.*

FINANCIAL STATEMENT.

In the absence of the Hon. Treasurer the HON. SECRETARY next read the Financial Statement and Treasurer's Report forwarded by Mr. Campion, as follows :—

The income of the Branch during 1895 exceeded the expenditure by £13 10s. 2d., and the balance at the bank on December 31 has risen from £93 16s. 7d. in 1894, to £107 18s. 2d. in 1895. This is the first time the balance at the end of the financial year has exceeded £100. It is the inevitable lot of a treasurer to have to lament that some members are always in arrears with the subscriptions. At the present time fifty-three members have not paid their subscription for the current year, which became due on January 1, and thirteen subscriptions are still unpaid for 1895. The names of two gentlemen have been removed from the list for non-payment.

The balance sheet showed that the amount received during 1895 for subscriptions was £41 10s. 8d., which, with 10s. 11d. bank interest, and £93 16s. 7d. balance brought forward, made a total of £135 18s. 2d. After paying the year's expenses, including 2s. 8d. for bank charges, there was at the close of the year a balance in favour of the branch of £107 6s. 9d.

Mr. GADDES moved the adoption of the reports and balance sheet, and the thanks of the members to the Hon. Secretary and Hon. Treasurer for their services during the past year.

Mr. NICOL seconded this, and the vote was agreed to.

Mr. RENSHAW suitably acknowledged the compliment.

The PRESIDENT called attention to the balance of £100 in the hands of the branch, and stated that the Council were of opinion that it should be invested in the names of the Hon. Secretary and the Hon. Treasurer.

Some discussion took place as to the form of the investment, and eventually a resolution was passed empowering the Council to invest £75 in the names of the Hon. Secretary and Hon. Treasurer in such form as they thought most suitable.

ELECTION OF OFFICERS AND PLACE OF MEETING.

Mr. BLANDY moved, and Mr. C. STOKES seconded, that Mr. Renshaw, the Hon. Secretary, be the President of the branch for 1897, and that the place of the annual meeting be Rochdale.

After a few words from Mr. MURPHY and the retiring PRESIDENT, the resolution was carried.

Mr. RENSHAW briefly replied.

Mr. FRANK HARRISON moved, and Mr. BRUNTON seconded, the re-election of Mr. Renshaw as Hon. Secretary—"as it is desirable that his services as such be retained, Mr. Alex. Matthews be appointed as assistant Hon. Secretary during the term of Mr. Renshaw's Presidency." This was carried, and Mr. MATTHEWS said he was willing to do what he could to assist the Hon. Secretary in the discharge of his duties.

On the motion of Mr. HEADRIDGE, seconded by Mr. KNOWLES, and supported by Mr. FRANK HARRISON, Mr. Campion was unanimously elected Hon. Treasurer.

The voting for members to serve on the Council then took place, Messrs. Mordaunt and Pidgeon acting as scrutineers. The ballot resulted in the election of Messrs. C. Stokes (Sheffield), J. C. Birch (Leeds), G. O. Whittaker (Manchester), and T. W. F. Rowney (Derby).

Mr. BIRCH raised a question about the ballot papers, believing it would be advantageous if the voting papers could be sent to members a few days before the meeting. Several members spoke on the subject, and eventually it was agreed that the matter should be considered by the Council.

Mr. MATTHEWS moved, and the HON. SECRETARY seconded, the nomination of Mr. Gaddes for the Representative Board. This was carried.

Mr. GADDES said he looked upon the decision of the meeting as a great honour.

The HON. SECRETARY said the Council had recommended that the next informal meeting take place at Buxton in October.

Mr. SUTTON said he would be very pleased to see the Midland Branch at Buxton, and he would do his best to make it a very pleasant meeting.

The recommendation of the Council having been adopted, the PRESIDENT remarked that of course this included a week end for all the members with Mr. Sutton at Buxton.

The retiring PRESIDENT (Mr. J. C. Storey) then delivered his valedictory address. He said: We are very glad to meet you here in Sheffield, at this our Sixteenth Annual Meeting. I am about to say goodbye to the Presidency, but before doing so I shall follow the usual custom of delivering to you a short valedictory address. I shall assume for a few moments the rôle of a candid friend, and in criticism I may add I am not unwilling to take my share of blame. Our membership being almost stationary is, to my view, an unhealthy indication, and want of progress in this respect shows either that we are not doing a work that the unattached dentist appreciates, or that we are not making them cognisant of our doings. We have a field for progress from which our numbers ought soon to be doubled. Why is this not taking place? Probably for the reasons named. Let us analyse them.

(1) Are we fulfilling our vocation? Is our Association doing the work it ought to do? Confining ourselves to the branch—we hold our annual meeting and two informal meetings at intervals during the winter. Into these we crowd our papers and demonstrations, dealing with both our educational and political questions. I submit that with great advantage these might be considerably multiplied. The evident desire for this is shown by the establishment of the Manchester and also the North of England Odontological Societies. Do not here misunderstand me. I do not for one moment wish to decry the very useful work being done by these flourishing kindred societies, but I am rather of opinion that if our Association had more vigorously carried on its efforts, these societies would not have arisen, nor indeed have been needed.

Again, in the meetings we hold are the subjects dealt with of the kind that are the most helpful? This I think is dependent on the willingness or otherwise of the rank and file to add their little quota; a difficulty, I am sure, those in office have frequently to face. In a word this branch is largely what its members make it.

(2) Are unattached dentists made aware of what we are doing? Undoubtedly the advent of our annual meeting, especially as it is of a migratory character, atttracts, more or less, the attention of those eligible for, and yet not within, our ranks. This, however, hardly applies to our informal meetings. We visit a town frequently at great railway expense, and except among our own little coterie it is altogether unknown.

May I suggest to the new Council the desirability of some constant and systematic arrangements by which our eligible constituency might be made aware of our doings, and by these means and a frequent canvass, I think it is likely our ranks might be largely augmented and our influence thereby extended. In saying these things, which I can assure you are said in no mere fault-finding spirit, I want you to realise more and more how helpful our meetings are and can be made. I know that frequently when we look around our larger towns and see the disgusting advertisements and the blatant charlatans advertising their "tooth wares" we are apt to get disheartened, but there is another and a brighter side. By the faithful plodding of earnest workers much advance is being made in our methods, and the dissemination of information, both at our meetings and by means of literature, is giving to all the opportunity for progress. It remains for us to assimilate individually the constant stream of information that is thus being opened out.

Possession of knowledge, as a rule, is accompanied by the grace of humility. There is, however, a time and place for everything, and I want to suggest to those who, through labour, have obtained the knowledge of things dental, that *in their surgeries* they should have the courage of their convictions. In this particular I have several things on my mind which, would time permit, I should like to speak. I must, however, let one phase serve as an illustration.

It is not an uncommon occurrence for patients, on presenting themselves to us, to say they "want two teeth out," or "want *a* tooth filling." Now custom is strong, and it is, of course, useless to argue that this is no way to approach us, but I think it is due to our own self-respect that we should point out that *our* experience may possibly be of some value, and that it is our function to advise what is needed for the best interests of the patient. We thus take another platform, and whether they will accept our advice and have the needed work done, we discharge what is manifestly our duty when we point the way. In this connection, too, let me say without the strongest reasons we should never allow ourselves to be persuaded to do for patients what is not in the fullest accord with our highest knowledge. Again, there are certain misconceptions in the mind of the public that we owe to them as well as ourselves the duty to combat. Take three terms in use so common that they are almost thought by some, I believe, to be axioms of our profession :—(1) "Consultations Free" ; (2) "The Removal of Roots quite Unnecessary" ; (3) "Teeth Supplied so much per Tooth." Let us look at these :—

(1) *Consultations Free.*—Why should a man whose education has cost many hundreds of pounds and several years of time, give away that which is most valuable—his knowledge and time ? Advice is often more valuable than actual work done. Unless there is an ulterior motive no man will give it free, and a wise patient would not accept it.

(2) *Removal of Roots Unnecessary.*—This is a detail of practice, and *we* know that in many cases it is as desirable to remove roots as in others to retain them. The difference, of course, in our case and

that of the advertising man is that when we leave the roots in we make them thoroughly healthy by filling.

(3) *Teeth, so much per Tooth.*—How long are the public to have an idea that we *sell* teeth? My recommendation is, when a patient desires to know "how much per tooth?" smile at the idea and say at once, "I shall be glad to inform you as to the cost of professional services I am about to render, and that will include any denture needed, but my fee will not be based on the number of teeth supplied." Personally it is my custom to suggest I will give them a handful to take home with them if the number is of any moment.

We ought constantly to show our patients that these and kindred terms are introduced as catch words by the advertising dentists, and that as the advertising dentist is of necessity a man who is deficient in self-respect and probably in knowledge of his work, so his words and terms can in no way be accepted by us as our codes of practice. I have to-day only touched the fringe of a subject that is full of interest to those who are aiming at the true ideal of dental practice, viz., the best interests of their patients, but it is a subject that might well be elaborated were there time, for depend upon it, brethren, that success in its best sense is very dependent upon our personal management of patients.

The year has been one of progress. The Local Government Board have accepted the figures of our School Committee, and everywhere are requesting guardians to appoint dentists. We must here be on guard. Good and ample services must be given to the children, time for these things should be suitably recompensed, and I hope that members of our Association will oppose the idea of *honorary* appointments of this sort.

In our daily work, too, there are many things that have recently made great strides. The application of electricity for our engine work is becoming very general. Many other things call for notice, but I must content myself with mentioning two that I think are the most prominent. Building on our *certain* knowledge of the antiseptic treatment of roots, we have the considerable development of crown work and the Downie and other methods of porcelain baking bid fair to help us over our former inability to deal with what was æsthetically wrong, viz., the staring gold crown towards the front of the mouth. Finally, as my successor in the presidential chair is shortly to show, we are within measurable distance of making practical use of the most recent discovery in photography known as the X rays.

In conclusion, let me thank you for your kindness in making me your President, an honour which I count one of the chiefest of my life, also for the ready manner in which both the Council and members have fallen in with suggestions I have put forward, and for your forbearance with me in all my shortcomings. My last word is to express a desire that the Midland Branch may have an increasing sphere of usefulness, and may continue to be, as in the past, the pioneer of all that shall raise the excellency and status of the profession.

A hearty vote of thanks to Mr. J. C. Storey for his services as president was carried.

Mr. Harrison then took the chair and delivered the following inaugural address :—

The fourth annual meeting of this branch of the British Dental Association was held in this city twelve years ago. It is not unnatural that our minds should revert, not only to that time, but also to consider the *interim*, and as far as Sheffield is concerned, to endeavour to ascertain what effect, if any, resulted therefrom.

The retrospect of an Association of men, as of an individual, contains many regrets as well as causes for congratulation and thankfulness.

Death has robbed us of three of our most sincere and enthusiastic workers, each of them a credit to the profession and Association to which he belonged. Although our ranks have been thus weakened, yet we have been able to carry out the work in which they were so much interested, and to-day we have to rejoice that what then was only a hope is now an accomplished fact.

By a somewhat curious coincidence the new dental department at the Royal Hospital is practically opened for its work under the auspices of the Association, which has lent its hearty support during the necessarily tedious process of its inauguration ; thus a permanent monument has been erected to testify to the usefulness of this Association. The meeting twelve years ago served to bring together Sheffield practitioners who had never met before, and now, as this city is honoured by a second visit of the Midland Branch, the local practitioners have the great satisfaction of asking it to inspect and admire the outcome of their combined exertions.

But while thus taking to ourselves such a large amount of credit, we must not forget our indebtedness to the Medical Staff and the Board of the Royal Hospital.

The Medical Executive has worked with a persistence and vigour which has been admirable, and has endeavoured to second the efforts of dentists in every possible way. To forget or to fail to express this would be an omission which would be as ungrateful as it would be unpardonable.

The President then gave an exceedingly interesting and instructive address on "The New Photography and its Application to Dental Practice."*

Mr. Brunton (Leeds), moved a hearty vote of thanks to the President for his able address, and this was seconded by Mr. Gaddes, and supported by Mr. Storey, and carried.

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* To be printed in a future issue as an original communication.

The members then adjourned to luncheon at the Masonic Hall, on the invitation of the new President.

DEMONSTRATIONS AT THE ROYAL HOSPITAL.

In the afternoon the members and their friends proceeded to the dental department of the Sheffield Royal Hospital, where numerous demonstrations took place.

Mr. J. C. Storey's subject for demonstration was "Every Day Impressions taken in Stent."

Mr. STOREY showed his ordinary plan of impressions in stent. He advocated that in most cases, while it was not an absolute necessity to make special trays, it was eminently desirable in order to get the best results. He described his plan of having handles ready, and showed his mode of casting same. He advocated Britannia metal struck up on ordinary dies for the trays, and said that for most cases he found that with stent well manipulated, and with these special trays, he got models with all the undercuts that could be practically used.

Mr. BRUNTON (Leeds) in the absence of Mr. W. E. Harding, who was on the agenda to demonstrate, dealt with the subject "The Manufacture of a Downie Crown." Mr. Brunton demonstrated the making of crowns for central incisors. A platina collar fitted to the root and covered by a piece of heavy platina foil, which is perforated to allow the platino-iridium post; the collar cover and post are soldered with pure gold. The porcelain face of the crown is best produced by using a porcelain half tooth. This may be soldered after adjustment, or it may be fastened by pinching the pins round the post. The porcelain body is supplied in powder, and is applied by mixing it with water. It is applied with a brush, taking care not to have it too wet. It is now ready for fixing, which takes about two minutes. The porcelain body shrinks considerably in fixing, and it is necessary to build up more (say about a third more) than is required. The points of advantage in the above method are rapidity and a more natural appearance.

Mr. I. RENSHAW, L.D.S. (Rochdale), Hon. Secretary and President-elect of the branch, gave a demonstration on "The Method of Making Seamless Gold Crowns for Capping the Roots of Teeth which are broken down, in order to make them serviceable for Masticating Purposes." The process is as follows: a circular disc was made by a hand press and cutting dies, then a plunger is fitted into the press, a fresh die is placed in position, and the disc placed thereon and the lever handle brought down and a cap made similar to a gun cap. The edges are then trimmed, and the cap placed over a crown die corresponding to the size and character of the tooth to be crowned. The edges are then made to correspond to and fit the neck of the tooth to be operated upon, by placing in a narrowing or diminishing die or dies, and any irregularity of size or shape may be regulated with contouring pliers. Before placing into position the cusps should be thickened by flowing a little solder into the cusps on the under surface of the crown. The root should be dried before fixing the crown, the cap should then be filled with soft fossiline, pressed into position in the mouth, the excess of white filling removed, and the crown held into position until the cement has set, when the case is completed.

The time occupied in making and adapting a crown ready for cementing took exactly three minutes to accomplish, this naturally not including the flushing of solder under the cusps.

Mr. E. HOUGHTON showed a new form of apparatus for the automatic administration of nitrous oxide by means of a specially-designed regulator.

Mr. J. CHARTERS-BIRCH, L.D.S. (Leeds), demonstrated the use of Dr. de Trey's Solila gold, by filling a large crown cavity in an inferior left-twelve-year molar, using Kirby's rubber-dam and Ivory's special clamps. The cavity was rather large, and nine pieces of gold were used in the filling. Apparently, the gold was placed in the cavity anyhow and condensed by hand pressure only, with what appeared to be slight force, yet at the finish the plug was found to be thoroughly condensed and extremely hard, with margins sharp and well finished. Upon the invitation of the operator, during the progress of the filling, six members each placed a piece of gold and condensed it under his direction, all expressing surprise at the ease with which the gold adhered, and the solid nature of the filling. Upon removal of the rubber-dam, the patient was seen to be wearing an upper bridge of twelve teeth, anchored by cap crowns to a molar on each side, and supported by pivots on the six anterior teeth. The bridge is a fixed one, but made easily removable, ample cleaning spaces being left between the centrals and above the bicuspids and molars, so that every part of the bridge is accessible to the toothbrush.

Dr. E. CATT demonstrated "The Treatment of Putrescent Pulp Canals with Dr. Schreier's Kalium Natrium." Dr. Catt explained that kalium natrium is a preparation of sodium and potassium first prepared by Dr. D. Schreier, of Berlin. A small portion introduced into the root canal containing a putrescent pulp causes energetic chemical reaction. The sodium and potassium combine with the mixture (H_2O), forming caustic soda and potash ($NaOH$ and KOH); the caustic soda and potash then combine with the fatty matter present, forming a soapy mass which is readily removed.

Mr. R. C. H. DRABBLE dealt with the subject, "The Advantages in the Use of Husband's Pluggers in Gold Filling." He claimed that amongst the advantages are: the greater ease, over other fillers, in which they can be used, specially in building up contours of gold, both in the mesial and distal surfaces; they can also be used with greater safety in fragile teeth than can most other gold pluggers by the rotary action; further, the greater density and smoothness when finished.

The PRESIDENT gave illustrations with his *x* rays apparatus, these experiments being watched with the greatest interest. At the close of the demonstration the members adjourned to the Board Room, where a discussion took place.

Mr. STOREY first spoke on his demonstration, "Everyday Impression-taking in Stents." He said that his experience in many cases, where he had to deal with other people's work, was that better results might have been obtained if vital points had been more carefully attended to. First there was the preparation of the mouth; next to know that the mouth was healthy, and also to know the condition of the mouth—to know that the conditions were favourable for the work that was about to be done. He did not believe in trying at impossibilities; and many of the undercuts got in plaster were valueless for reproduction in the plate. Speaking generally, a good composition impression was possible to the average man, and for practical purposes wa generally good enough if carefully done. He found that making trays for cases did not occupy long and well repaid the trouble.

Mr. BRUNTON joined issue with Mr. Storey, and expressed the opinion that plaster of Paris was the best material for taking impressions of a patient's mouth. While plaster of Paris did not shrink in cooling, other compositions did, and, thereby, to a certain extent, they got a false impression. A method he showed at Edinburgh he claimed was an exceedingly good one.

The PRESIDENT, in asking for a discussion in reference to "The Manufacture of a Downie Crown," thanked Mr. Brunton for taking the place of Mr. Harding at such short notice.

Mr. BRUNTON, after explaining the advantages of the Downie crown, said there was a limit to its use, for while it was very good for small cases, for first teeth, or for two or three teeth, he could not recommend it further. One of the drawbacks, also, was the pink colouring; it was not a natural pink. The small work that had been done with the Downie Crown was, however, exceedingly satisfactory.

The PRESIDENT said the Downie Crown was very useful and very handy, and Mr. BIRCH said he had worked with it to great advantage in building three or four teeth.

Mr. RENSHAW next spoke on "Seamless Gold Crowns." He said that most of the gentlemen present used this method of doing this work, and they would all agree that the act of making a gold crown took less time than the explanation of the method.

Mr. BIRCH said he saw Mr. Renshaw demonstrate on this subject at Edinburgh. He got an apparatus and had been using it pretty extensively ever since. One great point in favour of this method was that if the crown did not fit exactly it was very easy to make it fit.

Mr. Birch next dealt with his subject, "Dr. de Trey's Solila Gold." He said those who had seen the Solila gold used must have thought how easily and how carelessly it could be packed. But he would tell them it was as necessary to take as much care with this as with any other gold. By using Dr. de Trey's Solila gold a great deal of time was saved, and altogether the work was made much easier. You can work it very rapidly with hand pressure ; it holds very tenaciously and sets very solidly.

Mr. RENSHAW added his testimony as to the special advantages of Solila gold. He had used Dr. de Trey's instruments, and found them very valuable in working the gold. The instruments were not so well finished, and were not so nice-looking as our English instruments, but they seem to be specially adapted for this work. He agreed with the demonstrator that the man who used this gold ought to use it with as much care as he would exercise when using leaf gold. A man could do his work in much quicker time with Solila gold, but as much consistent care was needed. One point—when trying to finish off a Solila gold filling, if there was an excess of gold in the cavity, they would find it more difficult to finish off the work than with ordinary gold. It took longer to file through, longer to sand paper ; and this showed, to his mind, that it was an ideal thing. It was a good, firm, strong, serviceable material.

Mr. STOREY said he had been using Solila gold, and in the first case or two he felt afraid that something had happened, the work was so easily and so rapidly done. But it was all right, and he had since found it of very great value.

After further discussion, which was joined in by Messrs. A. P. WALLIS, E. J. MORDAUNT, and G. BRUNTON, Mr. BIRCH replied, saying that Solila gold was like all others in some respects—the best operators did the best work, and mistakes could be made with this gold as well as with any other.

Mr. CATT, having given an explanation on "The Treatment of Putrescent Pulp Canals with Dr. Schreier's Kalium Natrium," Mr. R. C. DRABBLE spoke on "The Advantages of Husband's Pluggers in gold filling ;" and he was followed by Mr. H. BLANDY, who introduced a skull-cap he recently invented for a case of a broken jaw—broken in football—at Nottingham Infirmary. He stated that the patient wore the cap and jaw-rest for seventeen days, was perfectly comfortable all the time, and was discharged cured, though the case was a very bad one. The apparatus enabled him to have the jaw fracture attended to with very little pain.

The PRESIDENT spoke briefly of the experiments he had made that morning with the x rays.

At the conclusion of the discussion votes of thanks were passed to the various gentlemen who had taken part in the meeting, a special word of praise being accorded to Mr. Mordaunt, the local Hon. Sec.

ANNUAL DINNER AND EXCURSION.

The annual dinner of the Branch was held in the evening at the Masonic Hall, the president, Mr. FRANK HARRISON, occupying the chair.

On Saturday the members and friends went through "The Dukeries." The party left Sheffield (Victoria Station) at 9.33 by train for Worksop. At the latter place carriages were waiting, and they were taken through lovely scenery—through Clumber Park, Sherwood Forest, and Welbeck. Lunch was served *en route*, and the party arrived back in Sheffield about 5 o'clock.

Western Counties Branch.

The Annual Meeting will be held at the University College, Clifton, Bristol, on Friday, July 24, 1896.

The order of the proceedings will be as follows:—

9.30 a.m.—Council Meeting at the University College.

10.30 a.m.—Business Meeting for members only. After the completion of the business the meeting will be open to friends.

The President's Valedictory Address.

The President's Inaugural Address.

11.30 a.m.—Paper on "Our Plan of Campaign," by Dr. J. C. Oliver, L.D.S.Eng. Paper on "Immediate Root Filling," by Dr. Hayman, L.R.C.P. and S.I., L.D.S.Eng.

2. p.m.—Luncheon, by invitation of the President, at his residence, to members and friends.

3 p.m.—Demonstrations at the President's residence: Mr. T. Taylor Genge, L.D.S.I., the President, "The Method of Making Downie Crowns;" Mr. W. A. Hunt, L.R.C.P., M.R.C.S., "Taking Impressions of Difficult Cases in Plaster of Paris;" Mr. J. H. Gartrell, "A Furnace for Crown and Bridge Work, with New Method for Porcelain Crowns and Bridges;" Mr. G. Thomson, L.D.S.Eng., "A modified Collar Crown, applicable to superior Incisors and Bicuspids;" Mr. W. H. Goodman, L.D.S.Eng., "Crowning: Büttner's Method."

7.30 p.m.—Dinner at the Clifton Down Hotel. Tickets (exclusive of wine), 7s. 6d. Members intending to be present are requested to make early application to the hon. secretary.

On Saturday, July 25 there will be an excursion to Clevedon. Luncheon at Walton Park. Tickets, with luncheon, 5s., without luncheon, 2s. 6d.

It is particularly requested that members who wish to attend will inform the hon. secretary as soon as possible, in order to facilitate the arrangements.

Subscriptions, due August 1, should be paid to the hon. treasurer, Mr. J. T. Browne-Mason, 6, Southernhay, Exeter. Headquarters will be at the Clifton Down Hotel.

The following bye-law will be recommended by the Council to be added to the bye-laws of the branch:—"A special meeting of the branch may be called at any time by the Executive Committee, not less than fourteen days' notice being given to every member. No business shall be transacted at such meetings which has not been certified in the agenda."

T. Arthur Goard, *Hon. Sec.*

Eastern Counties Branch.

A full account of the Annual Meeting of the above branch will appear in our next issue.

A. Hopewell Smith,
Hon. Sec.

The Benevolent Fund.

The following new annual subscriptions, donations and promises have been received since the publication of the last list :—

New Subscriptions.

Thompson, Murray F., Dublin (per G. M. P. Murray, Local Representative for Ireland)	£1	1	0
Pollard, R. L., Lyndhurst, Blackheath (per Sidney Spokes, Local Representative for Metropolitan Counties Branch)	1	1	0
(Per I. Renshaw, Local Representative for Midland Counties Branch) :—			
Stokes, Charles, Sheffield	1	1	0
Cocker, Alfred, Sowerby Bridge	1	1	0
Minshall, F. W., Salford	1	1	0
Rippon, Chas., Dewsbury	1	1	0
Lumley, J. W., Kirby Moorside	0	10	6
Bradbury, E. A., Huddersfield	0	10	6
Cocker, Arthur, Halifax	0	10	6
Mitchell, S., Dewsbury	0	10	6
Broughton, Geo., Patricroft, Manchester	0	10	6
Jackson, Thomas, Lytham	0	10	6
Wood, G. W., Retford	0	10	0
Lodge, Alonzo, Lockwood, Huddersfield	0	10	6

Promises.

(Per I. Renshaw Local Representative, Midland Counties Branch) :—			
Councell, E. A., Liverpool	1	1	0
Sutton, J. E., Buxton	1	1	0
Sutton, W. A. O., Bradford	1	1	0
Mordaunt, F., Sheffield	1	1	0
Moore, John, Stockport	1	1	0
Woods, J. A., Liverpool	0	10	6

Broughton, W., Eccles	£0	10	6
Catt, Ernest, Scarborough...	0	10	6
Lodge, G. H., Rotherham	0	10	6
Knowles, A. E., Stockton-on-Tees	0	10	6
Matthews, A. A. (increased subscription), Bradford ...	0	10	6

Donations.

Williamson, Dr. W. H., Aberdeen	1	1	0
Stevenson, H. Brooks, Todmorden	0	10	6
Southern Counties Branch, British Dental Association (per F. V. Richardson, collected at Meeting held June 20, 1896)	6	2	0
Midland Counties Branch, British Dental Association (per I. Renshaw, collected at Annual Meeting held June 26, 1896)	6	1	0

Original Communications.

Teeth and Toothache in the Olden Times, with a few of the Superstitions and Beliefs belonging thereto.

Collected by JAMES C. DOUGLAS.

> *Don Pedro:* What, sigh for the toothache?
> *Leonato:* Where is but a humour or a worm.
> —*Much Ado about Nothing.*

In these days, when the science and art of dentistry are making such giant strides, when one's mind is so filled with the latest problems and theories of our leading investigators, we are apt to lose sight of the very recent and small beginnings of the present developments, and to quite overlook and forget the numerous superstitions and quaint folk-lore which, during the past centuries, were believed in, even by the most highly educated, and many of which, in some parts of the world, still exist as matters of faith. It seems almost a pity that such, however useless to the practitioner, should be completely lost; if only from an æsthetic and historical point of view many seem worth recording.

The writer's attention was drawn to this subject by noticing that now and again, in the ordinary extracting room of his hospital, adults who had just had a tooth extracted would ask if they might take the tooth away with them. On enquiring of one old lady of Hibernian origin, the reason of her anxiety to possess a particularly carious specimen of her masticating organs, her prompt reply was, " And shure, isn't it black luck that I'd always have if we parted ? "

From this, and other remarks of a like nature, the writer has been led to look up a few works on mythology and folk-lore, on the subject of teeth, and though the following notes do not by any means exhaust the subject, the hope is expressed that these may form a nucleus round which many practitioners who reside in various and remote parts of the world may contribute notes of the superstitions prevalent in the districts in which they sojourn, and so add somewhat to our short and meagre history of teeth and toothache amongst our forefathers.

Beginning with England, we find various superstitions existing in each county or district. The dates of the origin of these are very uncertain ; it is also difficult to give any reason at all satisfactory for many of these beliefs.

In Sussex and Wiltshire it used to be customary to cut the paw from a live mole and carry this about the person as a cure for toothache. The mole and mouse, according to old astrologers, was the earthly representative of the Pole star, which was said to have a curative influence over sickness and pain.

Carrying sealed packages (containing writings by a wise man or woman) about the person was very common. In Chelsea, during the early part of last century, a young woman had a sealed paper to guard her against toothache. Her priest prevailed upon her to open it, and all found inside was—

Good devil, cure her,
And take her for thy pains.

In North Hampshire, a tooth taken from the mouth of a corpse used often to be enveloped in a small bag and worn round the neck to secure the wearer against the pangs of toothache ; but Martius says : " Although the friction of a dead man's tooth may be good for toothache, yet on the testimony of Helmont, the loss of the patient's tooth is likely to follow."

Toothache in Norfolk was often called the " love pain."

In Lancashire, the custom of wearing the following charm sewn inside the waistcoat, or corset, on the left side, prevailed commonly until the end of last century :—Ass St. Petter sat at the Gates of Jerusalem, our Blessed Lord and Sevour Jesus Christ pased by, and sead, 'What eleth thee? hee sead, 'Lord, my teeth eketh,' hee sead, 'Arise, and follow mee, and thy teeth shall never eake eny mour.' Fiat!—Fiat!—Fiat!"

In Berkshire, Bontron is substituted for Peter.

Again, in Sussex, the above legend inscribed in the family Bible or Prayer Book constituted the charm.

The parish monthly nurse of Churcham, Gloucestershire, used invariably after public baptism to wash out the mouth of the infant with some of the remaining sanctified water as a safeguard against toothache.

A Cornish custom was to begin dressing by putting the stocking on the left foot first. The cure in this case seems to have been somewhat remote from the disease; still, we find the same belief held in Shropshire, whilst the people of Sussex said the right foot was the one to be covered first.

Another Cornish cure was to bite close off by the ground the first seen fern that appears in spring. This was said not only to cure toothache, but prevent its return during the year.

In the district of Sheffield, the belief was "that you will have to find all your teeth on the day of Judgment; but those teeth do not require to be produced which have been thus dealt with—put salt on the tooth, and throw it into the fire, saying:

"Good tooth—bad tooth,
Pray God, send me a good tooth."

Amongst cures by transfer—in cases of constantly recurring pain, Martius recommends piercing the gums with a piece of bark (the best was willow), then returning the blood-stained piece to the tree and covering it with mud. Another remedy suggested by the same authority was that the thigh-bone of a skeleton should be used to rub the part.

To quote Sir Kenelm Digby: "Cut the gum with an iron nail till it bleed, then drive the blood-stained nail up to the head in a wooden beam. This done, you shall never have toothache again all your days."

Marcellus of old recommended the patient to spit into a frog's mouth, and request him to make off with the toothache. According to Culpepper, "a piece of mistletoe hung round the neck is excellent good for this disease."

Kirani says: "A divine medicine to keep the teeth sound and firm which I would not keep from you is—'Of the juice of the grape, ℥i. or eight spoonfuls; bark of the mulberry root, ℥vi. Boil to half and wash the mouth three, five, or seven days, and your teeth will never ache."

Another prescription of the same authority was to "wrap a corn of salt in a white spider's web and place it in the hollow tooth, when the ache will be cured."

It is well known that up till a few years ago toothache was supposed to be caused by a worm in the tooth. This belief seems to have been world wide, as we find that in many languages the word for toothache means a worm, or beast. In Madagascar, the sufferer is described as being "poorly through the worm." The word for beast is used in the Manx language; in Gaelic, the word "worm"; also in other Celtic languages. The belief that a worm is the cause still exists in some places, and was generally believed even amongst the educated up till the end of last century.

Amongst the many curious remedies prescribed for the treatment of the teeth, or in "Toothwark," the following are most interesting:—

"If a worm eat the tooth, take an old holly leaf, or one of the lower umbels of the Hart wort, and the upward part of a sage; boil 2 doles [*i.e.*, 2 of worts to 1 of sage] in water, pour into a bowl, and yawn over it, then the worms shall fall into the bowl."

A second remedy was, "If a worm eat the tooth, take holly rind over a year old, and root of the Carline thistle, boil in hot water, and hold in thy mouth as hot as thou hottest may." A third remedy used frequently during the 17th century was as follows:—"For tooth worms, take acorn meal, henbane seed, and wax, of all equally much; mingle these together, then work them into a wax candle, and burn it, let it reek into the mouth, put a black cloth under, then will the worms fall on it."

"Black's Folk Medicine" has the following:—

"If in your teeth you hap to be tormented,
By meane some little worms therein do breed,
Which pain (if need be tane) may be prevented
By keeping cleane your teeth, when as you feede;

Burne Frankomsence (a gum not evil sented),
Put Henbane unto this, and Onyon seede,
And with a tunnel to the tooth that's hollow,
Convey the smoke thereof and ease shall follow."

Scotland and Ireland are credited with many superstitions, some of which are so similar, and resembling the English beliefs, that only a few of each country are given.

In some parts of Scotland the sufferer was required to go to a graveyard, and to pull, with his own teeth, a tooth from a skull. In many parts of Ireland, it is said this is customary at the present time. A charmer or wise man at Riccarton, in Ayrshire, professed to cure toothache by simply driving a nail into the beam which supported the roof of his house. Some said that to drive a nail into an oak tree was sufficient. At the head of Glen Morin, in Islay, is a large boulder stone (named Clach Deide). It was believed that any person who drove a nail into it would thereafter be secure from attacks of toothache. An effective cure was also supposed to result from taking the first nail used in nailing down a coffin lid, and applying it to the aching tooth.

In Ayrshire, the root of the yellow iris, chopped up, and chewed, is believed to be a panacea; whilst some recommend the carrying of a double hazel nut about the person.

In many districts, on the first symptoms of a child cutting its teeth, a "teething bannock," or cake, was made, consisting of oatmeal, butter and cream, sometimes with the addition of a ring. This was baked in the presence of a few neighbours, and without a word being spoken by the cook. When prepared, it was given to the child to play with till broken, after which a small piece was put into the child's mouth, and each one present carried away a small portion. It was supposed to ease the troubles of teething.

In county Wicklow it was customary to point three smoothing irons, each three times at the painful spot, in the name of the Trinity, when, sure enough, the pain would vanish.

Aubrey says, "The Irish do use a wolf's fang tooth, set in silver which they hold to be better than coral, for assisting teething; whilst in Germany silver bells are used." From Pitsligo we have the following:—

"If ye cut yir first teeth abeen
Ye winna dance i' yir marriage sheen.'

Amongst the many beliefs from abroad the following few are most interesting, but many articles might be written on the superstitions prevalent in such places as India, China, Japan, Russia, Africa, and amongst the Aborigines of North and South America. From Germany we have the following:—

When children shaled their teeth, the women used to wrap salt about them and cast them into a good fire. Cramer saith that in parts of Germany some women will bid their children to take the tooth which is fallen or taken out, and go into a dark corner of the house, and cast the same into it, saying: "Mouse, here I give thee a tooth of bone, but give thou me an iron one." Another custom was, as soon as a child's first tooth was seen, to box his ear, and the remainder were supposed to be more easily cut. The same was supposed to happen if a child were given an egg the first time it came into the house: though some said it made them more talkative. Children were warned not to lick the sockets of their first teeth, as the new ones would grow twisted.

In Denmark, the elder tree was said to be good against toothache or fever. In order that a child's second teeth might come straight, it was customary in Roumania to bury the first teeth, as they fell out, at the foot of a straight oak tree. As a cure for toothache—in Roumania the patient was made to sit beside an ant hill, masticate a piece of black bread, and spit it out over the ant hill. As the ants ate the bread the pain would cease.

Puritan New England was not exempt from superstitions as the following show:—One was, "That to eat, while a bell was tolling for a death or funeral would cause toothache." Another saying prevalent was to the effect that "he who has teeth wide asunder must seek his fortune in some distant land." Further, the first tooth cast by a child should be swallowed by the mother, to ensure a new growth of teeth.

Nurses recommended children to hunt for and carry double hazel nuts as preventatives. There is one story of a nurse who remonstrated strongly against throwing away the cast teeth of the children, as, if found and gnawed by an animal the new teeth would be like those of the animal. This she illustrated by the case of old Master Simmons, who had a large pig's tooth in his upper jaw, because his mother threw one of his into the hog trough by accident.

A necklace made of beads turned from the root of the peony was worn by children to aid dentition and prevent convulsions.

Amongst the Malagasy it was customary, when a child lost one of its first teeth from the lower jaw, to throw it over the house ; if from the upper, to bury it under the foundations; the belief being that a new tooth would grow in the socket if this was done. This at one time was also customary in England.

Amongst the treasures of old sorcerers were always to be found bones, hair, and teeth of the dead.

It is a noticeable fact that up to the 17th century, the popular belief in astrologers and their art, especially in France, kept in prominence the belief in the powers of the different planets over man and his ailments. Thus when Louis XI., in 1496, passed a new law regarding barbers, surgeons, and doctors, he ordered that each one should have by him a map of the heavens and a calendar of the year. Having to prescribe, or operate, they had first to assure themselves that the position of the moon was favourable. The different parts of the body were said to be subject to the influence of different planets, and Mercury is spoken of as having power over the teeth, as well as over the arms, feet, hands, mouth, and language.

It was not till the end of the 17th century that amongst the priesthood and medical faculty, belief in the influence of the stars began to wane. From 1688 to 1699 the clergy first assumed to the different saints the power hitherto believed to belong to the various heathen deities ; and it is amusing to note the jealousy which seems to have existed between the different saints, or their supporters, as to their beneficial powers. The different diseases, and all the ills that flesh is heir to, were divided amongst the various saints, but there were many more saints than diseases—so that some ailments have quite a number of patron saints—thus it is with Dentistry.

According to " L'Apologie pour Hérodote," our profession is blessed by no fewer than fourteen saints, though there is one recognised head, St. Apollonia, but she only got her superior position after a squabble, many of the priesthood asserting that

St. Christopher was a much "truer and more natural" doctor. The names of the various patron saints of the dental profession are as follows:—

Saint Christopher,
,, Englemond,
,, Rigobert,
,, Medard,
,, Ide de Nivelle,
Saint Apolline,
,, Dalmace,
,, Dizie,
,, Roch,
,, Elizabeth of Hungary.
Saint Blaise,
,, Crescence,
,, Ceran,
,, Nicholas,

Toothache, to be cured by St. Dalmace, required the sufferer to apply a tooth of the saint to the aching part. St. Rigobert required the patient to rub the teeth with the dust scraped from his tomb. To be cured by St. Medard the patient had to touch the tooth with a twig pulled from the hedge surrounding the tomb of the saint. Regarding St. Nicholas, in the News-letter of Bonaventure, "The Marquis of Ferrari, when suffering from the toothache was told by a wise man: 'Take the medicine I have given you, and pray to St. Nicholas, and thou wilt have an immediate cure.'"

St. Apollonia, when undergoing martyrdom at Alexandria during the reign of Emperor Philip, had her teeth beaten out, so that in many countries such as Italy, Spain and France, she became the chief recognised healer of toothache. She is generally represented as holding a tooth in forceps or pincers, with her teeth pulled out; sometimes with forceps in right hand and tooth in left, and at times holding a tooth whilst tied to a pillar and being scourged.

According to the French legend "St. Apolline was seated one day on a stone at the Gate of Heaven when our Saviour passed. Seeing her, He said, 'Apolline, what doest thou there?' to which she replied, 'I am here waiting for my leader; also because of my bleeding, and my toothache.' Our Saviour then said, 'Apolline, return; if one drop of blood will fall, or one worm will die, repeat five Paters and five Aves in honour of, and because of, the five wounds of your Lord Jesus Christ, then make the sign of the Cross on the cheek with your finger over the surface which aches, saying, 'God cure thee by His power,' and so 'twill be."

The Spanish legend very much resembles the last. It is this:—"Apollonia was seated at the Gate of Heaven, and the Virgin Mary passed that way. Seeing her, she said, 'Apollonia, what doest thou? Are you asleep or watching?'

'My lady, I neither sleep nor watch, I am dying with a pain in my teeth;' to which the reply came: 'By the star of Venus and the setting sun, by the most Holy Sacrament which I bore in my womb, may no pain in your teeth, neither front nor back, ever affect you from this time henceforward.'" From this the following popular saying was common:—"St. Apollin the rotten teeth doth keep when sore they ache."

A New Method of Adapting Springs and the Mode of their Manufacture.

By S. A. COXON, L.D.S.I.

Everyone is agreed that springs are very troublesome, and should never be used if it is possible to do without them. Nevertheless, they are very largely used, Messrs. Ash & Sons alone making between ten and twenty thousand pairs annually, and these are all of the precious metals; and when you come to consider the number of metal springs that are used, and those made by other manufacturers, the much-maligned spring gets its full share of patronage, and I venture to think that you will agree with me that we all of us do come across cases in which they are absolutely essential. To hold in that refractory denture that would otherwise always be falling down or slipping about the mouth, for aged people, or where great absorption of the alveolar process has taken place, they are the best means of retaining dentures. The reason why springs fall into such bad repute is that often in a well finished denture in every other respect, the bolts are badly set, and no provision is made for the free working of the springs, and no protection is made for the cheek. It is also well to remember the fact that the true use of springs is to keep dentures in their places, where there is no suction; not to make badly fitting and rocky dentures wearable, that would not otherwise be tolerated in the mouth. Another point is that springs should never be worn of greater strength than is absolutely necessary. A great amount of the trouble that is caused to the mucous membrane of the mouth is due to the use of springs of unnecessary strength.

The position of the bolts is the first thing to be considered.

The recognised place, taking everything else to be normal, is between the second bicuspid and first molar, and undoubtedly it is the correct one. But when setting the bolts you must always take into consideration what is to be the length of the spring. You may easily obtain this by setting the bolts while the dentures are in the wax. Now ask your patient to open the mouth wide, then with a pair of compasses take the distance from bolt head to bolt head. This will give you the exact length of the spring required. In making a spring the length should be the distance between the bolt heads when the mouth is wide open. This will give it sufficient bend to prevent it folding the wrong way when the mouth is closed.

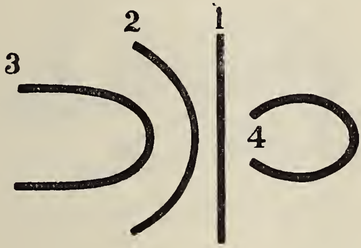

FIG. 1.

The spring should be in the position of Fig. 1, No. 2 when the mouth is open, and of Fig. 1, No. 3 when the mouth is closed. If when the mouth is closed the spring folds in the manner of Fig. 1, No. 4, it will have a tendency to displace and force the denture forward. If the spring become straight, as in Fig. 1, No. 1, when the mouth is opened, it shows at once it is too short. If the bolts are first set in the wax plate and the teeth made to accommodate themselves to the bolts, instead of the bolts to accommodate themselves to the teeth, there will be far less likelihood of the springs causing trouble. In setting up teeth provision should always be made for the free working of the springs, and the swivels set sufficiently forward to prevent the springs impinging on the muscles behind. It is always well to remember that it is easier to alter a case in the wax-up state than to have to grind away the faces of the molars when the case is finished.

As far as possible, springs should always be made to work in a groove, or on the inside of a wing, if the face is thin enough, as it prevents the spring from sagging and does away with the friction on the cheeks. To prevent sagging where neither grooves nor wings can be used, stops are often resorted to, but as a rule they give a great deal of trouble, and are often difficult to fix. Let me now describe to you a bolt and swivel that renders the use of stops unnecessary, as the stop is contained in the bolt head itself, which works in a groove cut out in the swivel; this only allows the spring sufficient movement to do its work, and prevents it either sagging or folding forward. A look at the sketch will, I think, explain itself.

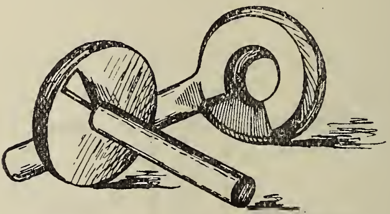

FIG. 2.—Bolt and swivel with self-contained stop.

Let me now describe a method of attaching springs to dentures, so as to render them at once easily removable by the patient, and again attached without trouble. This is done by means of slots fitted to the denture, the swivel being attached to a templet that slides into the slot. Now look for a moment at the sketch and you will see the bolt on the templet passed about half way into the slot. The distance between the vertical lines show the amount of range you can give to the bolt heads after the denture is completed. This is very useful, inasmuch if a wrong idea has been obtained with regard to the best position of the bolts, it can easily be altered by simply shifting the templet. It will also sometimes relieve trouble caused by the dentures pressing down on the gums and rendering them sore, where it is not desirable to cut away; by altering the position of the templet the case will be relieved in a more or less degree over that particular spot. Then, again, you are able to get the spring screwed tightly home on the swivel, and the swivels at absolute truth one to another, and so prevent twisting.

Fig. 4 is another kind of slot; it is a piece of half round wire enclosed in a split tube which is sometimes preferable to the flat slot and is more quickly made.

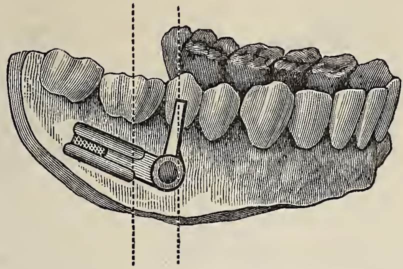

Fig. 3.

Now we come to the making of the slots. The method I use is to place a piece of No. 4 plate in a piece of steel with a slit in it, Fig. 5, and a butterfly nut on the top to hold the plate tight. File round the edges until the plate is just flush with the steel, and when you take it out you have a piece of metal the exact size to make the slot. You now place the metal on the anvil, Fig. 6, and strike it into the graduated slits with the slot folder, No. 2. Then take

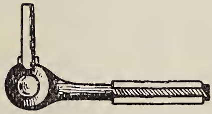

Fig. 4.

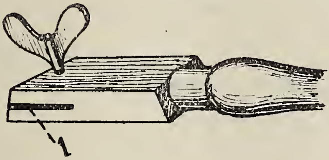

Fig. 5.—Matrix for slot making.
1. Slit to receive metal.

the metal which will now be in the shape of Fig. 7 and put the templet into it (the piece of metal to form the slide) put it into the last slit of the anvil and tap or press the edges over. In this way you get a swivel and slide that are uniform in size and perfectly true—a thing that is highly essential.

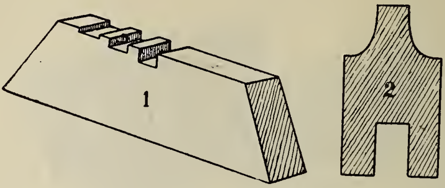

FIG. 6.
1. Block for striking up slots. 2. Slot folder.

Fig. 8 is an instrument similar to Fig. 5 for making the templet. The hole in the edge is to take a drill to make a hole in the templet to receive the bolt; this is an advantage which does away with the possibility of false centering.

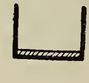

FIG. 7

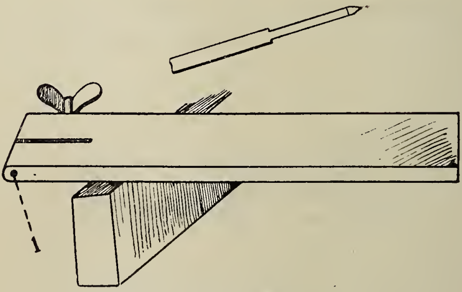

FIG. 8.—Templet maker.
1. Centre for drilling hole to take bolt.

Now a word about the springs themselves. I think there are very few of us who have not seen the little ridged lines in the cheek, caused by the furrows in the spring. To prevent this, india rubber tubes are sometimes placed over the springs themselves, but after a time these become very objectionable, the rubber becoming very offensive. Now where this rubbing of the cheek occurs, you may get over it by using smooth-faced springs. These are made of square wire and are afterwards polished in the lathe. The result is that you get a spring that will cause no irritation to the cheek, and is far less likely to retain food than those in common use.

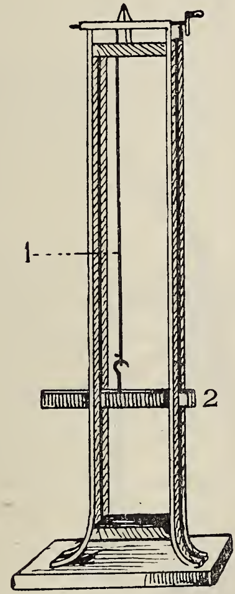

FIG. 9.—Spring winder complete.

1. Wire in process of winding. 2. Weight working in slots to keep wire stretched.

Spring making in the laboratory has become almost obsolete, so possibly the mode of manufacturing them may be more or less interesting to some of the readers. With the machine shown in fig. 9 you can make springs to wind right or left, and where springs have an inclination to twist, you will find that by placing one wound right and one wound left on the case, it will entirely do away with the trouble.

Fig. 11 is a balance for testing the strength of springs. Springs that are made of the same gauge of wire are frequently of unequal strength if they are tested. Take, for instance, a spring that has been worn for some time, its fellow having got broken; the remaining spring will be of uncertain strength. Now by putting this in the spring tester you can find its exact bending strain. This is useful, as by booking the weight used in the tester, you can always replace with a spring the exact strength previously used.

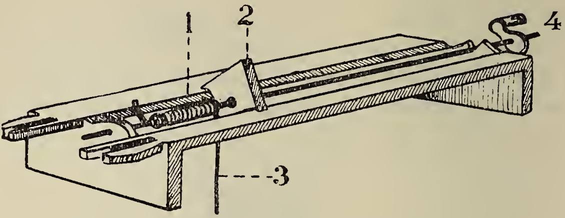

FIG. 10.—Spring winder head.
1 Spring on mandril partly wound. 2. Mandril carrier to prevent it bending. 3. Wire winding on mandril. 4. Handle for turning mandril.

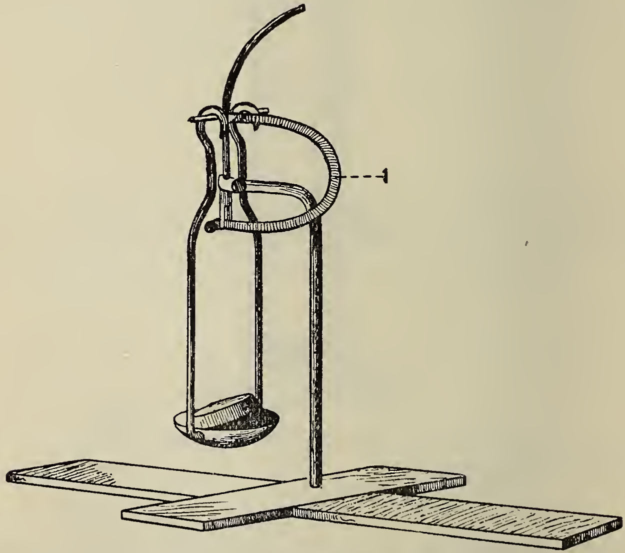

FIG. 11.—Balance for testing strength of springs.
1. Spring.

Platinum in its Relation to Dental Prosthetics.

By HERBERT R. BOWTELL, L.R.C.P.Lond.,
M.R.C.S., L.D.S.Eng.

It is often stated and especially by junior members of our profession, that platinum is not so adapted for the construction of artificial dentures as gold, or dental alloy, and as a result of this postulate, it is largely discarded and deprived of its pride of place.

It is for this reason (coupled with the fact that from the very beginning of my professional career I have been closely and personally associated with the method of working it) that I venture to ask your attention to a few facts, contained in a communication for which neither originality or comprehensiveness is claimed, whilst at the same time trusting, that as a result, the metal in question may be at least partly reinstated in a position which I shall endeavour to show it should occupy.

Therefore, before proceeding further, let me remind you of a few of its more important properties. Platinum is found in conjunction with iridium, osmium, rhodium, palladium and other metals, and also occasionally with copper, in Peru and Brazil and other parts of America; but in much larger quantities in the Uralian mountains of Russia, in sandy beds from 2½ to 5 feet in depth, yielding for every 3,700 lbs. of sand about 1 to 3 lbs. of the metal.

The platinum contained in these beds, is separated from its allies by the various elaborate processes of heating, washing, shaking, and decanting. The metal thus obtained is in a pulverised condition, and steel grey in colour. By further treatment in the direction of calcination, hammering and rolling, platinum as we use it is obtained, and is then of a white colour, similar to silver, but of less lustre, more or less soft according to the method of preparation (for it may be hardened by the addition of iridium), very heavy, of a specific gravity of 21.25 after forging, and less malleable than gold or silver.

Platinum wire can be drawn to $\frac{1}{2000}$ part of an inch in thickness, and is capable of supporting a great strain. A wire $\frac{1}{10}$ of an inch in diameter will suspend 590 lbs. without breaking. The metal is peculiarly resistant to the action of acids, but may be dissolved in nitro-hydrochloric acid. It can be fused by electricity and melted in the oxy-hydrogen flame. So much for a recapitulation which I think you will find helpful to bear in mind when considering the question of its applicability to dental prosthetics.

This brings us, then, to the consideration of those arguments which have been adduced against the employment of platinum in dentures; and perhaps the more important of these are: —(*a*) Its weight; (*b*) that it is difficult to manipulate; (*c*) that it cracks and fissures in the mouth; (*d*) that the solder peels off; (*e*) its relative expense.

With reference to the first point, it will be found in actual practice that it is possible to work with a very thin guage, *e.g.*, No. 5 as compared with No. 6 dental alloy, and No. 7 18c. gold.

From this it will be readily observed that any objection as to weight is at once removed. And, further, I should mention that No. 5 is the guage which has been employed with most satisfactory results in full upper dentures in my experience. Of course, it is not pretended that the foregoing guages are the only ones which should be used, but that they are found to be the most useful.

That platinum is difficult to manipulate depends entirely upon the operator, and I must observe in passing, that I have not found it any more so than the other metals. In this connection it may be as well to consider the construction of a so-called suction upper. The usual process is observed as in other metal work, and it will be found better to avoid the use of a zinc counter die as much as possible; for the resistance with such a counter is greater than with lead, and the plate being hard and thin, more likely to crack during swaging. The die should be of zinc and the counter of lead, or tin and bismuth. The plate should next be well annealed, especially before it is each time placed in the counter die, preparatory to striking. And here I may almost say that the more platinum is annealed the better; this being one of the secrets of success at this stage. The plate being swaged approximately into position, one of the difficulties may now become apparent. I mean puckering of the centre of the palate near its posterior margin; and this occurs especially in high arched palates and when suction chambers are used.

This condition is more or less peculiar to platinum work, and does not often occur in the case of gold or dental alloy, if due care be taken. The defect is sometimes rather obstinate and difficult to treat, but can be remedied by clamping the die or securing it in a vice, and the plate being held firmly in position, a few sharp blows given by means of a wooden mallet and ivory punch. Then there is an important point to observe in reference to chasing the plate round the necks or cingula of any existing teeth, or with regard to the suction chamber, and that is, on no account to use a steel punch, because if this is done the platinum being hard, and of thin guage, may be perforated quite easily. An ivory punch can be shaped with a file to the satisfaction of the operator, and, generally speaking, is sufficient for most purposes, but a brass punch may be used with care. Why a steel punch is ever employed I cannot understand, for it is, in my opinion, an unnecessary and dangerous weapon. In order to obtain a perfectly adjusted plate it may be as well to place two thicknesses of brown paper between the plate in position on the zinc die and the counter die, when, after swaging finally, if the plate has been previously inclined to spring or ride on the zinc, it will now be found to fit in perfect apposition with the model. Then, of course, the question of bands or clasps should be alluded to, and these should be of half round 16c. gold wire, of a gauge suitable for the purpose, or where deep collars are used, 16c. gold plate of say No. 8 guage. Their method of application is well known. The teeth should be backed with platinum No. 5, or dental alloy backing may be used if good gold solder is flushed evenly over the backing.

Before fitting the teeth to the model, the plate and backs of teeth, if of platinum, should be scored or roughened with a file, emery cloth, or glass paper, over such portion as the solder is intended to flow.

If this is properly carried out there will be no peeling or separation of solder at all.

Firing and soldering should be noticed in the next place. No. 2 or 3 solder should be employed as for other work and the case gradually heated until the solder wears a blackened aspect, this being a better guide than the dull red heat recommended by the text-books, and which occurs if the case be too rapidly fired, before the condition of blackening is present. If the borax has been properly applied the solder now reduces quite easily.

The denture is finished by the well known methods adopted in plate work, and with which I need not weary you, but I should like to point out that when so completed platinum dentures take a higher and more lasting degree of polish than either gold or dental alloy.

From the foregoing remarks it will be evident that I have not been absolutely systematic in considering all the factors connected with the production of a platinum denture, but have laid stress only on those points which appear to be of the utmost importance.

Proceeding to the next argument, which is perhaps the strongest, viz., that platinum cracks in the mouth, I am not prepared to altogether dispute that, as compared with gold or alloy, it does so, but not to any great extent. Of course if the denture is badly adjusted over roots and given a powerful bite fissuring will occur, but the remedy is obvious. In the case of large uppers, it will sometimes be advisable to use a double thickness of the metal in the form of a strengthener behind the incisor and extending as far as the premolar teeth.

After what has been already discussed together with the remedy suggested, the question of the peeling or separation of solder requires no further refutation, and this leads me to remark that, owing to the hardness of the platinum used, there need be no fear of perforation in clearing the excess of solder with water of Ayr by a corundum stone in the dental engine, or during polishing even although the plate be of narrow gauge.

Expensive as platinum is, averaging, for example, fifty shillings per ounce (the value of the metal being very unstable) it appears to occupy an intermediary position between gold and alloy, and when (the dentist, having to be actuated by other motives than the love of the work for the work's sake, in the case of most of us), the question of a fee is considered, a patient can be accommodated with a material to my mind the equal, if not the superior, of gold.

Having disposed of, and as I trust, more or less destroyed the arguments raised against its employment, it would, indeed, be strange, if it were not possible to set forth at least some of the advantages of platinum.

In the consideration of these, the remarkable manner in which it effectually resists, under all circumstances, of health or otherwise, the action of the oral secretions (in a manner much more complete than is the case with gold or alloy), should give it at least some preference; as also should the fact, that it virtually never discolours, even in most unclean mouths, with the possible exception of inveterate lovers of the pernicious weed.

I have seen cases, after years of wear and inattention, removed from the mouth as clean as the day they were made. And again, I never remember hearing, on any occasion, complaints as to "a peculiar taste," which I have heard in the case even of gold; but much more frequently with regard to dental alloy.

No account, I suppose, of the application of platinum to dental work, would be complete, without a passing reference to crown and bridge work; but the method of adaptation, for instance, in the case of the collar and ferrule of a Richmond crown, or of soft platinum, burnished over the root of an ordinary pivot, are well known to all, and really do not come within the sphere or intentions of this paper. Whilst an account of its position in relation to bridge work is best left to those whose specialty this is, and who look with an eye far less sceptical than mine, on its merits and utility.

If I have appeared to advocate too strongly, or with too great a degree of bias, the claims of platinum in denture work, it is because I am firmly convinced of its abundant usefulness.

If, on the other hand, I have fostered the stern criticism of this assembly by reason of a too apparent presumption, my answer shall be that, though a young practitioner, I have had a fair experience of the subject at issue.

An Omission.

In the May number of the Journal, the Hon. Treasurer acknowledges the receipt of ten guineas from "certain Cardiff dentists." We are asked to state that it should read "Cardiff and *Newport* dentists."

Legal Intelligence.

Action under the Dentists Act.

SOMETHING more than local interest attached to a case heard at the Eastbourne Police Court on Monday before the Mayor (Alderman J. A. Skinner), who presided, Major Harold P. Molineux, Sir Alfred Dent, K.C.M.G., Councillor R. C. Lambert, F. Schreiner, Esq., B.A., and H. D. Farnell, Esq.

Jacques Flax appeared in answer to a summons alleging that he, not being registered under the Dentists Act of 1878, and not being then a legally qualified medical practitioner, did unlawfully take or use an addition, title or description, namely D.D.S., or some other name, title, addition or description, implying that he was registered under the said act, or that he was specially qualified to practise dentistry.

Mr. R. W. Turner (instructed by Messrs. F. Bowman and Crawley Boevey, of 21, Bedford Row, W.C.), appeared to prosecute on behalf of the British Dental Association, and Mr. Ritchie Macoun (instructed by Mr. T. E. Varley Kirtlan), defended.

Mr. Turner, in opening the case, said defendant, who had been carrying on business at 1, Victoria Place in this town, was an unregistered practitioner. Outside his premises there was a notice board of which this was a copy: "American Artificial Teeth Company. J. Flax, D.D.S."—meaning Doctor of Dental Surgery. To the witness who would be called he said, "I am a Doctor of Dental Surgery, as you will see by my diploma." If defendant could have been registered in respect of his New Hampshire diploma he would have been. They must therefore take it that that diploma was in fact not recognised. None of these American diplomas were recognised. In his consulting room and operating room defendant had the following notice: "Mr. Flax begs to inform his patients that being duly qualified in America, and also registered in France, he is not registered under the Dentists Act of 1878." He (Mr. Turner) did not know whether his friend was going to rely on that as his defence, but in the first place there was no such notice outside the premises. You did not get this notice till you were in the consulting room or in the operating room. Defendant said, "I am qualified in America. I am qualified in France. I am not registered in England." Therefore it followed that he virtually said "I am breaking the law by holding myself out as being a person specially qualified to practise dentistry."

William Fletcher Thomas Brown, examined by Mr. Turner, said:—I am clerk to Messrs. Bowman and Crawley Boevey, 21, Bedford Row, W.C.

In consequence of instructions received, did you go to the premises of defendant at 1, Victoria Place, Eastbourne, on June 8?—I did.

Did you make a note of what you saw outside the premises?—I did.

Will you just tell us what you saw outside the premises?—There was a board in the Seaside Road on the house: "American Artificial Teeth Company. Specialist, J. Flax, D.D.S. Entrance, 1, Victoria Place."

And a hand pointing to it?—Yes.

Are there any similar boards there?—I did not notice any that side. There was at the entrance in Victoria Place. It was painted on the door post.

Well, on the door post at the entrance to the premises was there anything?—Similar words.

With "D.D.S.?"—Yes; and also that show case. It contained teeth then as it does now.

You will take down the words on the case: "American Artificial Teeth Company. J. Flax, Specialist." There is no "D.D.S." there. Well, did you go up to the first floor of the premises?—I was shown to the first floor by the gentleman who answered the door. I asked for Mr. Flax, and he took my name in to Mr. Flax.

Did Mr. Flax come to you? Mr. Flax came in.

What did you say? I think I said, "Good morning Mr. Flax," or "Mr. Flax I presume?" That is what I said. I said, "I have called from the Solicitors of the British Dental Association with reference to the boards you have downstairs, particularly the words and letters on them.

Did you mention the letters? I said, "Particularly the letters D.D.S." I said, "We take these to mean 'Doctor of Dental Surgery.' I presume that is what you mean by them?" He said, "Yes. I am entitled to use those letters. I have a diploma as doctor of dental surgery. You can see it if you like." He said he did not understand. I told him, "I think in any circumstances the Association will prosecute you for using the letters D.D.S." He said, "I am perfectly competent. I can do any class of work. I do all of it myself." Then he said "I don't wish to deceive the public or anyone. You see that notice," pointing to the notice on the table which was on the wall then. I turned round and said, "Yes, I do. You appear to be perfectly candid. I will take a note of that"—which I did. He said, "I have nothing whatever to conceal" and asked me to go into the operating room.

Was this the consulting room you had this conversation in? I was then in the consulting room.

How was it furnished? A table with books and papers. This notice was on the wall with one or two pictures I think.

The MAYOR: Was the room fitted up as a dentist's surgery?

Mr. TURNER: He goes into the back room as a consulting room. You went into the operating room afterwards.

WITNESS: Yes, and Mr. Flax pointed this notice out to me and showed me his case of instruments which he said were the best in Eastbourne, or as good as any in Eastbourne.

Was there a chair there? A dental chair. On the wall there was another of these notices which Mr. Flax pointed out to me.

Did you show him a pamphlet? I showed him in the first instance a pamphlet. This is the pamphlet. He said, "There is nothing in that."

Mr. TURNER: Just hand it to me. Is this a pamphlet by defendant as to artificial teeth, saying he gives the best attention and the most finished skill at reasonable cost, and setting out that he does different work on the American system, and that the Company is called the American Artificial Teeth Company.

Mr. MACOUN: I object to this. We are now only charged with using the letters "D.D.S.," and are not charged as the American Artificial Teeth Company.

The ASSISTANT MAGISTRATE'S CLERK: Is it to be set up that he is not ordinarily resident?

The MAYOR: I think you should confine your remarks to the charge.

Mr. TURNER: Very well, I will leave that over. At all events he identified that pamphlet.

WITNESS: Yes. He said there was nothing in it, meaning, I suppose that there was nothing objectionable so far as the Act is concerned.

I will put it in in any case. It is suggested that "D.D.S." does not mean "Doctor of Dental Surgery." Did you have any further conversation? He said he had been a dentist in one of the Parisian hospitals.

Did he say how he acquired his practice? I asked him how long he had been in Eastbourne. He said, "About six months."

Did he say anything else about the practice? He told me that he purchased it of Mr. Phillips, I think he said.

Mr. MACOUN: You must not assume. Did he say so? WITNESS: Yes.

Mr. MACOUN: We want more than understanding. This is a criminal prosecution, Mr. Turner. It must be proved strictly.

WITNESS: Defendant pointed out what he said was a diploma hanging on the wall. He said that was a New Hampshire diploma. I could see it had New Hampshire on it. He said, "You used to recognise American diplomas," and mentioned Michigan and Harvard. He added, "You don't do it now," or, "It is not done now."

The ASSISTANT MAGISTRATE'S CLERK: I will just formally note this down.

Mr. MACOUN: I formally object.

Cross-examined by Mr. MACOUN: Mr. Brown, had Mr. Flax any intimation that you were going to visit him? Not to my knowledge.

He did not prepare his establishment for your reception? No, sir. I don't know. I don't know that he knew I was coming.

You just sent in your name, "Mr. Brown wants to see Mr. Flax?" Yes.

You remained in the consulting room for some little time? Yes.

Was defendant with you the whole time you were in the consulting room? No. When I first went in I saw a gentleman at the door who took me up to the consulting room.

You misunderstand me. From the time you first saw him in the consulting room till the time you left the consulting room together was he with you the whole time? Mr. Flax was.

Then he had no time to prepare the operating room for your reception? No.

He seems to have been wonderfully confiding? He told me he had nothing to conceal.

Mr. MACOUN: This is a prosecution for deception and fraud.

Mr. TURNER: I beg my friend's pardon. That is the whole difference between this Act and the Medical Act. Here as in the Veterinary Surgeons Act it is simply a question of holding himself out to be something he is not. There is not a word of fraud in it.

Mr. MACOUN: To use a title and imply you are something you are not is a deception.

Cross-examination continued. Did he not strike you as an exceedingly candid man? Yes.

You saw the notices there? There were the notices on the wall.

You made a note of the letters? Yes.

I call for that note. Was this made in the street at the time? Yes.

I suppose you have no difficulty in identifying the show case? No. That is the one.

Is this all you saw? I saw a foreign diploma.

I mean in front of the house? On the windows there was the word "American."

Quite so. That may strike you as insignificant, but it is nevertheless important. On each of the windows was there the word "American" in large white letters? Yes.

Now you are a man of some little experience in these matters, are you not? Yes, I have had a few experiences.

You don't pretend of course, for a moment, that the letters D.D.S. deceived you? They did not deceive me, certainly.

They did not deceive you. Make a note of that, please, for something important rests on that. You do not suggest that this man is not qualified to act as a dentist? He is not specially qualified.

Answer my question, please. You don't suggest that this man is not qualified to act as a dentist? I don't suggest anything. I don't suggest he is qualified or unqualified. He may be competent.

This is the diploma, is it not, to which he drew your attention? Yes.

Now, if you have some little experience in these matters, you know there is such a diploma as the diploma of New Hampshire? I have never been to New Hampshire and don't know there is such a place.

You spoke just now of the diplomas of Michigan and Harvard. Mr. Flax told me.

Mr. MACOUN: You identify the diploma put in?

Mr. TURNER: The document put in as a diploma.

Mr. MACOUN: You are charging this man with fraud. You do not suggest we have forged this, do you? WITNESS: No, I don't suggest it.

Mr. TURNER: I don't want to suggest fraud for a moment. It is unnecessary under the Act.

Mr. MACOUN: I will ask your worships when the proper time comes to take it as necessary. Mr. TURNER: I shall object.

Mr. MACOUN: You may also take it from me that my friend will object to every possible thing. Mr. TURNER: No, I shall not.

Mr. MACOUN: Is not American dentistry far and away above English dentistry? Has it not been brought to a far higher state of perfection? WITNESS: It is hardly for me to say. Fortunately, I have not had to go to a dentist.

This man did not treat you or operate in any way? No.

Do you know that nearly every dentist's operating room has got American chairs? They have operating chairs like Mr. Flax had.

Mr. MACOUN: An American operating chair? Mr. TURNER: He doesn't say American operating chairs. He says, "They have operating chairs like Mr. Flax had."

Mr. MACOUN: Don't you know that as a fact? I have to get the facts from you as you are probably the only witness. Don't you know nearly every surgeon dentist worthy of the name goes to America to study dental matters? WITNESS: I could not answer that.

You know a large number go? I could not say that.

You know Mr. Flax is a Frenchman, I suppose? I asked him, and he told me he was a Frenchman.

In fact he does not seem to have kept any of his family history back from you. My friend in opening this case suggested it was an offence to practise as a dentist. Is that your opinion?

The Dental Association think a man must not call himself a dentist unless he is one.

Mr. MACOUN: I respectfully agree with the Association. I disagree with my friend's opening.

Mr. TURNER: I did not intend to open that. I put in both Registers. That is the Medical Register. The other is the Dental Register.

The ASSISTANT MAGISTRATE'S CLERK: Have you any other witnesses?

Mr. TURNER : No. I have no other witnesses.

Mr. MACOUN : I understand the case for the prosecution has closed. Your worships, I don't intend to occupy you at any great length because it seems to me that the prosecution has lamentably failed to establish a case. If you look closely to this Act of Parliament you will see that as Acts of Parliament go it is clear. The intention is fairly intelligible. This is Clause 3 : " From and after the Act of 1879 a person shall not be entitled to take or use the word or title of dentist." There is no proof before this court that this man has taken or used the title of dentist. This is a penal Act and must be construed strictly " Either alone or in combination with any separate word or words." We have used neither one nor the other. " Or any name, title, addition, or description implying he is registered under this Act." There is no evidence before the court that he has used any name, title, or description implying he is registered under the Act ; and the only matter before the court at the moment is whether the use of three letters, " D.D.S.," on two places on the doorpost, mean and hold out that he is a registered English dentist, a person specially qualified to practise dentistry.

Mr. TURNER : The Act says " whether expressed in letters or words."

Mr. MACOUN : I agree with my friend. It can include any title, description, or addition, whether expressed in words or letters, or partly in one way and partly in the other. I ask you to look at this Act as men of common sense. It is an Act passed for the protection of the public—the protection of the public alone. It is not an Act passed for the purpose of protecting registered dentists against unregistered dentists. Till 1878 there was no such thing as a profession of dentistry.

Mr. TURNER : You will excuse me.

Mr. MACOUN : Up to that time dentistry was a trade. In 1878 this Act is passed, and then for the first time the business is lifted to the platform of a profession. In fact, if my friend does not know it, it has been held that a contract for a set of artificial teeth is a contract for the delivery of " goods, wares, and merchandise."

Mr. TURNER : Not now.

Mr. MACOUN : This Act is put on the statute book, and its effect is not to protect the public from people qualified, but to prevent people who are unqualified practising dentistry as registered dentists. It is no offence against the law to practise as a dentist if you are not a dentist. It is an offence against the law to hold yourself out as a qualified British dentist when you are not one. There is nothing to prevent my taking a house in Eastbourne and practising as a dentist. No evil consequences would arise, except perhaps to those unfortunate individuals who might consult me ; I dare not describe myself as a registered dentist or registered practitioner. That is the whole point. Has this man held himself out as a British registered practitioner? This is a British matter we are dealing with. It is a British Act of Parliament. The witness told you that he noticed at this man's premises the word "American" on every single window. Now I ask you to look at this case here. The inscription means he is a specialist in American artificial teeth. The evidence of Mr. Brown in regard to "D.D.S." is that the letters did not deceive him. Now I take my first point. There must be positive evidence (before you convict) of actual deception. The people who have been deceived must be called before you. The invariable practice in cases of this kind is for some one to go in and ask for the dentist, and have a tooth seen to, or more commonly still, to go to a doctor and get prescribed for. That has not been done in this case. The witness sees defendant, and has a confiding conversation with him, and informs him when the conversation is over that the Dental Association will prosecute him.

Mr. TURNER: That was at the time.

Mr. MACOUN: It would be convenient if my friend would not interrupt me. I say there must be evidence that the letters "D.D.S." deceived somebody. There is no evidence of that kind. I put it to the only witness, and he says the letters "D.D.S." "did not imply to me that he (defendant) was a registered dentist. I knew better." That is the only evidence before this court. It might deceive the members of the public. I am not going to say whether it would or would not. The evidence is that he was not himself deceived, and therefore, there is no evidence of deception by words implying that he is a registered dentist when he was not a registered dentist. Under these circumstances I feel confident that the information must fail. There are other reasons. Perhaps I had better not go into them. I judge from the amount of warmth put into this case that there must be a great deal of feeling. It is not merely a case of asking the Bench calmly and dispassionately to deal with the construction of the statute. There is a certain amount of feeling existing between registered dentists and unregistered dentists; and I want to emphasize this point, that it is not an offence for an unregistered dentist to practise. There is no evidence that anything has been used implying that this man is a registered dentist. I shall take the point that the man is not ordinarily resident in this country.

The ASSISTANT MAGISTRATE'S CLERK: Do you put in any evidence? Mr. MACOUN: I don't think I can.

The ASSISTANT MAGISTRATE'S CLERK: I don't think it is a really serious point. You must have evidence of it.

Mr. TURNER: It is only in fairness to my friend that I point out this. The "D.D.S." not only implied he was registered—

Mr. MACOUN: The case is closed.

Mr. TURNER: He implied that he was specially qualified to practise dentistry, not that he was a British dentist.

The Bench retired to consult, and on their return the MAYOR said: We have considered this case and find it is clearly made out, in consequence of which we must inflict a fine of £5 and the costs.

Mr. TURNER: What costs will be allowed? This is a case in which it was necessary to incur some expense in order to fight the case. I should ask you to allow me some reasonable sum for costs.

The Bench decided to allow taxed costs to be settled between the parties. They also consented to state a case applied for by Mr. Macoun, who intimated that he would appeal against the decision on these grounds.

(1) It is not an offence to practise as a dentist not being registered and not using the words "Dentist" or "Dental Practitioner."

(2) There must be evidence that the use of the letters D.D.S. did as a matter of fact imply to somebody or other that Mr. Flax was a registered dentist.

Mr. TURNER: Having regard to this conviction, I shall not proceed with the other summonses. They only referred to the other titles that were used.

The other summonses referred to the words "American Artificial Teeth Company" and "Specialist."—*The Eastbourne Gazette.*

A Dispute about the Correct Execution of some Mechanical Work.

ON Wednesday, June 17, in the Westminster County Court, before His Honour Judge Lumley-Smith, the case of Taylor *v.* Pickering came on for hearing. Plaintiffs were A. G. Taylor & Co., 17, Poland Street, W., and defendant was Mr. Harold J. Pickering, L.D.S.Eng., The Old Bank House, Clacton-on-Sea, Essex. It was a dispute arising from the execution of some mechanical work for the defendant by the plaintiffs.

In opening the case plaintiff stated that defendant ordered by post a gold plate carrying the right upper lateral incisor, to be made to a model which was forwarded. Plaintiff produced the letter of defendant giving the order, in which it was most explicitly stated that the denture was to be held securely in position by small wires or clips which were to show as little as possible. Plaintiff stated that the work was executed and forwarded to defendant, who returned it with a letter, which was produced, in which he pointed out that the tooth was chipped at the cervical edge, that the bands which had been used to hold up the case were most clumsily constructed, and that the case was a loose fit on the model. Plaintiff stated that all these objections were non-existent, and claimed ten shillings and eightpence for the work done.

Defendant in his statement in defence gave a history of the entire transaction. From this it appeared that in March last he was consulted by a lady with reference to the replacing of a right upper lateral incisor. She wished it to be carried on a small gold plate, the fastenings of which were to show as little as possible. Defendant took a model and forwarded it to plaintiffs with the letter of order which had been produced. Plaintiffs wrote back and stated that they required to be paid 10s. 6d. before undertaking the work. Defendant replied that he was not prepared to do this, since he wished to see how the case fitted and was finished before paying for it. Plaintiffs then again wrote and asked for a reference, and defendant wrote naming Messrs. C. Ash & Sons. Shortly after defendant received the plate, and on taking it out of the box in which it was sent found the tooth chipped, the bands most clumsily designed, file marks apparent, and the whole plate a loose fit, in addition to which the tooth had been ground too short. He immediately returned it with the letter which plaintiff had produced, and received in reply a letter from plaintiff, in which he stated that the return of the plate was a piece of petty spite on defendant's part and that he should judge from defendant's letter that defendant did not know anything about dentistry.

In reply to a question of the Judge, defendant stated that it was presumable that he knew something about dentistry, since he was an L.D.S.Eng., and further, that he had practised for two years. He also stated to His Honour that he would not allow such a piece of work to go from his hands into one of his patient's mouths.

Plaintiff reiterated the statement that there was no fault in the case, which was perfect when it left his hands, and suggested that the tooth was chipped in transit.

Defendant's wife was then called and sworn. She stated that the plate was unpacked in her presence, and that the tooth was chipped. On the model being produced with a mark on it, which was said to be the width of the plaintiff's bands, she stated that they were even wider than the mark indicated.

The original denture was here produced by plaintiff, and Mr. A. J. Watts, L.D.S., late Curator of the Mechanical Department of the Dental Hospital, was called by the defendant to give an expert opinion on the case.

Plaintiff objected to the calling of this evidence, but the objection was overruled by the Judge.

The case was submitted to Mr. Watts, who at once pointed out that the tooth was not properly fitted down, that the bands did not grip the teeth correctly, and that they would be very visible.

At defendant's request the denture was handed to him for examination, and he immediately swore that the bands had been greatly reduced in breadth and the tooth so touched with a stone as to render the chip less visible, since he last saw it.

This plaintiff emphatically denied.

Defendant's wife was re-called. She examined the plate and supported her husband's statements respecting the alterations in the denture.

In conclusion defendant pointed out to His Honour that unless the denture had been most seriously defective he would not have returned it, thereby keeping a lady for a longer time without a front tooth, and at the same time running the risk of losing her as a patient on account of the delay.

Plaintiff, in his concluding statement, swore that the plate had not been touched since defendant returned it, stated that the bands were left large on purpose, that the work was difficult to do, that he had done it to the best of his ability, and that he had put the finish on it that most dentists would require.

His Honour, in delivering judgment, pointed out how particular ladies were over matters affecting their personal appearance, and drew attention to the evidence of Mr. Watts, who had stated that the denture was not a proper fit; His Honour further remarked that bands had been put on when wires or clips had been most explicitly ordered, and in conclusion gave judgment for the defendant, who applied for and was granted costs.

Abstracts.

On the Chemical Composition of Enamel.

By CHARLES S. TOMES, M.A., F.R.S.

It might have been thought that the last word had been said upon this subject, seeing that so large number of analyses of enamel have been published, but a comparison of the analyses shows great discrepancies in their results, and especially in the percentages of carbonic acid and of organic matter, the range in which is so wide as to strongly suggest an error somewhere.

As regards the carbonic acid, I find about 4 per cent. in elephant's enamel, but the estimation of carbonic acid in the small quantities obtainable is necessarily not very exact.

The question of the organic matter is more interesting and the divergences greater.

Thus, to give a few examples, Berzelius* gives the organic matter as 2 per cent.; von Bibra† as from 3·59 to 5·97 in man, and as 7, 8, 9, and even 10·83 in other mammalia; Hoppe-Seyler* as 5·74 (including soluble salts) in the horse, and in the dog as practically none, at least only ·8 per cent. Fremy† gives for hippopotamus enamel 10 per cent. including soluble salts; the 10 per cent. he divides up into 7 per cent. soluble in hydrochloric acid, and 3 per cent. insoluble organic matter; and Aeby‡ gives 3·60 as the percentage of organic matter in the cow.

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* Berzelius, "Simon's Chemistry," Sydenham Society.

† von Bibra, "Chem. Untersuch über die Knochen und Zähne," 1844.

It is expressly stated in some analyses that the organic matter was estimated simply by loss, whilst others appear, from the manner in which the percentages are set out, to have been conducted as analyses of an ash, so that in these also the organic matter was probably estimated by the loss on ignition.

In one point all the analyses agree, in that no water is set down as a constituent of completed enamel.

It is a matter of extreme difficulty to get enamel free from other dental tissues; so difficult is it that very close agreement in results is hardly to be expected, for those animals which have enamel of such thickness that a reasonable quantity can be got generally have it convoluted, so that it can only be separared from adherent tissues by grinding away so much of its surface as to sacrifice a large proportion of the enamel itself.

With the object of arriving at some explanation of the discrepancies, and also of studying its own nature, I endeavoured to estimate the organic matter directly, and soon arrived at the somewhat surprising conclusion that there was none, or not enough to amount to a weighable quantity.

The method at first followed was to dissolve the enamel in dilute nitric acid, adding it by degrees so as to use only just enough to effect solution of the lime salts; this usually left a residue of a few shreds, which on microscopic examination proved to be pieces of dentine, cementum and Nasmyth's membrane, in no case in which the enamel had been carefully prepared amounting to more than ·4 per cent., and generally being far less.

The solution after being filtered was cautiously neutralised with ammonia till it became cloudy, cleared with acetic acid and then tested for proteids.

No precipitate was obtained with tannin, picric acid, or lead acetate, only the very slightest tinge of yellow with the xantho-proteic reaction, no biuret reaction, and no colour with Millon's reagent. Lest the presence of the lime salts should have masked any of the reactions they were precipitated in the usual way as oxalate and the filtrate again tested with similar negative results: neither absolute alcohol nor saturation with ammonium sulphate gave a precipitate.

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* Hoppe-Seyler, "Physiol. Chemie.," 1877-81.

† Fremy, *Annal. d. Chemie.*, iii. xliii.

‡ Aeby, *Centralblatt f. medicin. Wissenschaft*, 1873, No. 7.

As a check experiment a solution was prepared which contained lime phosphate and carbonate in the proportions in which they exist in enamel, and ·25 per cent. of dry collagen obtained from dentine was added. In this mixture the presence of the proteid was established with the utmost plainness, so that the conclusion appeared irresistible that there was less than ·25 per cent. of proteid or proteid substance in the enamel used.

Lest there should be a body insoluble in acid, some enamel was powdered and digested for twenty-four hours in weak baryta water; on acidifying this with acetic acid a cloudiness was produced which after many hours settled; it was, however, too little to weigh. A similar result was obtained with lead acetate, so that the alkaline solution had taken up a trace of mucin, or perhaps, as suggested by Professor Michael Foster, of nucleoalbumin.

But the small trace obtained was insufficient for the determination of its exact nature.

Up to this point the enamel of man, the horse and the elephant had been employed, but as they showed no differences, that of the elephant's molar was selected for further experiment, as it is possible to get it in larger quantities.

The dentine and cementum were scaled off it with chisels, and all adhering fragments that could be seen removed by filing or grinding; the enamel thus obtained was broken into small pieces and dried for at least six hours at 130° C.

On ignition, which was done in a muffle to secure uniformity of heating, specimens of this enamel were found to lose from 5·8 to 7·5 per cent. of weight; the previous experiments had shown that at all events there was nothing like that amount of organic matter, so it seemed probable that it must be water, an inference strongly suggested by the loss of some samples by their flying violently into pieces after reaching red heat, and by something blowing out between the platinum crucible and its lid, when a lid was used to prevent loss.

Of course the usual correction for loss due to the driving off of carbonic acid from carbonates by moistening the ash with ammonium carbonate was in all cases applied, though as a matter of fact the ash having been weighed both before and after, but little carbonic acid was found to have been driven off in these ignitions.

Portions of enamel were then placed in a glass tube the end of which had been sealed, and the other end then drawn down to a fine tube. On gently raising the end containing the enamel to redness its behaviour could be watched; when it nearly reached redness it began to crepitate and violent disruption of some of the fragments took place, these being projected far up the tube; at the same time a cloud appeared in the cool end of the tube and beads of water condensed therein, sufficient in quantity to coalesce and run down the tube.

The tube being then again weighed was found to have lost but little, but on reheating it, and heating the whole length so as to drive the water out, it was found that the loss was from 4 to 4·5 per cent., or a great part of the total loss found on ignition in a crucible.

It was thus shown visibly that it was water which caused most of the ignition loss, and on repeating the experiment, having converted the end of the tube into an extemporised calcium chloride tube, the water could be driven out of the enamel, rendered visible, then driven on into the chloride of calcium and absorbed, and the weight found to be nearly constant, so that an ignition with practically no loss of weight was performed.

The ignition in the tubes was instructive in several respects. The violent disruption and projection of fragments of enamel suggested a source of error in ordinary ignitions which may explain some of the discrepancies.

Then also there was a brown stain where the water first condensed which may have been due to some empyreumatic products, and so pointed to the presence of traces of organic matter; but on examining the enamel at the bottom of the tube, though it was seen to be darkened, it was noticed that the darkening was almost wholly confined to the immediate surfaces which had been in contact with dentine or cementum, and that the fractured surfaces of the interior of the enamel remained snowy white. This was a confirmation of the results got by microscopic examination of the insoluble residues, and pointed to the impossibility of getting the enamel really free from portions of other adherent tissue, so that it seems a fair inference that the empyreumatic products were derived from these surfaces and not from the enamel itself. So far then the almost entire absence of organic matter and the presence of a notable quantity of water had been established; it remained to enquire in what form that water existed.

Tribasic calcium phosphate, which is the form in which the lime and phosphoric acid in bone and in dentine are believed to be combined, when prepared by wet processes contains from one to several equivalents of water in combination, and only loses the last of these at bright red heat.

As in the development of the tooth it is laid down in the presence of much water the belief of Aeby, that the extra hardness of enamel was due to the lime salt in it being anhydrous, whereas that in bone and dentine contained combined water, never appeared probable, and my own investigations render it untenable.

As an average analysis of enamel we may take one of von Bibra's series:

$Ca_3P_2O_8$	89·82
$CaCO_3$	4·37
$MgHPO_4$	1·34
Organic Matter...	4·27

Now supposing that this 89·82 per cent. of calcium phosphate held in combination one equivalent of water, the percentage of water present would be 4·93, an amount not widely different from the loss set down as "organic matter" in his analysis. Indeed, considering that for the reasons given above, analyses of enamel can hardly ever be absolutely accurate, the coincidence is exceedingly close, and if all the results worked out as well the question that instead of organic matter we should read water, in the analyses of enamel, might be held to be settled.

But unfortunately, they do not by any means do so; thus with elephant enamel my own ignitions show losses larger than this, viz., 5·72, 6 and 7·1, and in the horse 7·2 and 7·8, and in man 7·8.

Taking the calcium phosphate at about 90, which seems to be about the average, these ignition losses are too large to represent exactly one equivalent of water, and too small to be two equivalents. And yet the impossibility of getting any satisfactory reaction with tests for proteids or proteoids renders improbable the assumption that there is one equivalent of water, and that the rest is organic matter.

It is pretty evident that the inherent difficulties render more than approximations impossible; thus Hoppe-Seyler gives for horse enamel 95·03 per cent. of salts, whereas von Bibra gives only 92.75, and I find 92·8. Thus Hoppe-Seyler's "organic matter" corresponds in weight very closely with one equivalent of water (it is noted that it was determined from loss, but does not say whether loss on ignition, or the deficiency when the lime and magnesium salts had been separately estimated), but von Bibra's and my own results give a larger loss.

Upon the whole the conclusions that I am led to draw are: (1) That there is very little organic matter in enamel, not enough for quantitative estimation. (2) That there is at least one equivalent of water in combination with the calcic phosphate, and this, which is not mentioned in any analysis which I have been able to find, generally has figured as organic matter. (3) That there is more water than this in enamel; it may be that from its physical structure it is very hard to dry, though longer drying and a somewhat higher temperature make little difference to it.

Or it may be that there are two equivalents in combination, and that the salt is exceedingly hard to decompose absolutely at the temperatures obtained; some of von Bibra's analyses do actually give an amount of loss attaining to the theoretical quantity required for two equivalents.

Dry dentine loses by ignition some 28 per cent. of its weight, but of this a large amount, somewhere about 7 or 8 per cent., is water, and the resulting 20 per cent. of organic matter retains the form of the dentine and is of very firm consistency, so that had enamel really contained anything like 4 per cent. of organic matter, a very appreciable and even coherent residue might have been expected when it was decalcified. And I have found that the nacreous layer of the shell of Pinna, which has a prismatic structure like an enamel with gigantic prisms, when decalcified leaves a perfectly coherent organic residue, which, when wet, is more bulky than the fragment of shell from which it was derived. Yet this conspicuous organic residue when dried is found to only amount to 1·3 per cent. of the weight of the shell employed.

The enamel of the elephant's molar must then be considered as an almost inorganic crystalline structure, and so far as my investigations have gone, there is no reason to suppose that the enamel of man, the horse and the ox differ materially from it.

This comparative absence of organic matter explains what has always been a difficulty with histologists, namely, the complete disappearance of enamel under the action of acids.

It is usually said that young enamel contains a much larger percentage of organic matter than adult enamel ; to ascertain if this be so, I procured some detached plates from the hinder end of a forming elephant's molar, which consist of a hollow flattened shell of dentine, upon which only a little enamel and no cementum has as yet been deposited.

The enamel at this stage is not very hard, so that it can be scraped off in powder with a knife. Microscopic examination of the scrapings show them to consist of short pieces of enamel prisms, either detached or laterally adherent in groups of four or five prisms.

A solution of this powder in dilute acids gives only a trace of proteid reaction, though tannin gives a very slight precipitate. There is, therefore, a little more organic matter than in the finished enamel, though ignition gives a loss of 8·5 per cent., and most of this is found by the methods above described to be water, and there is thus also a little more water than in the finished enamel.

Microscopic examination of the ash reveals the prisms unaltered in form though they have acquired a slightly granular appearance and seem to be less highly refractive. Fiercer ignition makes them break down more completely though the fragments of prism retain their form obstinately.

The slightness of the alteration by ignition also tends to prove that the proportions of organic matter must be small.

When this ash is moistened with water and again dried it is not found to have gained weight, but if it be dissolved in dilute acid, precipitated by neutralisation with ammonia, and again dried at a temperature sufficient to drive off the ammonia salts, it is found to have taken up about two equivalents of water.

Several interesting considerations arise from these results. In the first place the practical absence of organic matter renders untenable or almost untenable the view strenuously advocated by Heitzman, that the enamel is permeated by a complete protoplasmic reticulum and is so to speak alive, he having gone so far as to state that in caries the protoplasm proliferates and vastly increases.

Then again it seems to favour an excretion theory of enamel development rather than the view that the lime salts are deposited in and harden existing epithelial cells, for it seems difficult to understand so complete a disappearance of the organic matter, if it ever was there.

So far as it goes, it also tends to render less probable the view of Hoppe-Seyler that the lime salt is a complex one, analogous to apatite, in which the radicle CO_3 has replaced Fl_2.

Apatite $Ca_{10}Fl_2(PO_4)_6$
Bone salt $Ca_{10}CO_3(PO_4)_6$.

Or differently expressed

Bone salt $3Ca_3(PO_4)_2$, $CaCO_3$,

one equivalent of calcium carbonate having combined with three of calcium phosphate.

This hypothesis, strongly held by Hoppe-Seyler, was not exactly consistent with published analyses of enamel, and necessitated the assumption of error in the estimation of the carbonic acid.

This, for the reason given above, is likely enough ; yet it seems unsafe to regard the existence of this compound as established unless the analyses bear it out more exactly.

But that the water which I have found in enamel exists in chemical combination, even though the quantities found in the too small amounts of enamel obtainable are not exactly right, is indicated by its not being given off till a high temperature is reached, and then by its being set free so suddenly as to lead to the disruption of the fragment experimented upon.—*Journal of Physiology*, No. 3, 1896.

Further Notes upon Amalgams.*

BY CHARLES S. TOMES, M.A., F.R.S.

IN a former communication upon this subject, I pointed out that some advantages not otherwise obtainable were to be got by causing an amalgam to set with a rapidity which is so inconvenient as to almost preclude its employment in the more difficult class of cavities, and this difficulty of manipulation practically greatly diminished the usefulness of the method. I will only recapitulate what was then said so far as to mention that the good results as regards the ink test were got by the admixture of a certain proportion of old amalgam which had already set, but which was softened by heat and then rubbed up with the fresh mixture.

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* A paper read before the Odontological Society of Great Britain, April, 1896.

The idea of using old amalgams softened by heat was, as I have already mentioned, propounded by Dr. Otolengui, for finishing the surface of fillings, and as long ago as 1880, was mentioned for employment for the whole of a filling by Mr. Bodecker in a letter written to the *British Journal of Dental Science*, but it appears to have fallen stillborn.

With a view of rendering this or some similar method more generally available, I have since that time made a number of experiments, the results of which I propose to set forth this evening. If a little amalgam be mixed into a plastic condition and spread out in a thin layer upon a microscopic slide, its surface can be examined by illumination from above, the best method being that by light reflected down through the object glass, by means of an inclined slip of glass in an attachment screwed on between the objective and the body of the microscope.* The bright surface will be seen to have a smeary semi-fluid appearance, with numerous spherical or hemispherical projections upon it which look like, and doubtless are, beads of mercury. As time goes on these beads are found to have wholly disappeared, and their place is occupied by crystalline forms of metallic lustre. These crystals are sometimes cubes, sometimes six-sided, rhombs and, apparently, sometimes flat plates with six sides.

Thus it would appear that the process of setting of an amalgam is one of crystallisation, the metals being at first partly dissolved in the mercury, and then slowly forming with it a crystalline compound. And I found further that if a slide which had thus become crystalline be heated, the beaded appearance returns, just as some salts containing water of crystallisation will melt in their own water. But in this case (of amalgam which had once set) the crystals reappear in a few minutes, almost as soon as it has cooled. And I found also, that if a slide of freshly mixed amalgam be heated, the crystals appear at once instead of taking some hours to form; that is to say, that heat brought about the immediate setting of the amalgam, indeed as soon as it had cooled.

Three slides were then prepared, one with amalgam mixed so as to be just barely plastic, a second with more mercury, and a third mixed with a considerable excess of mercury, and then squeezed till only just barely plastic, whilst the expressed mercury was squeezed flat under a cover glass on a fourth slide.

An examination of these slides showed no material difference in the size or appearance of the crystals formed, with the exception of the fourth, in which no rhombs appeared, but only foliaceous forms similar to those in which tin crystallises. This crystallisation is the reason why an amalgam ordinarily used gets a mat surface when it has set, though left with a burnish upon it.

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* Such an apparatus was formerly made by Powell and Lealand. The light is admitted through a hole on the fore face, into which it is condensed by a bull's eye. The definition (with powers up to 8 mm., or even higher) is not sensibly interfered with by looking through the inclined slip of glass, and the objective acting as its own condenser, the light is well focussed on the object.

And this crystallisation takes place not only on the free surface, but also on that which is intact with the slide, and as it takes place on all that surface of amalgam which is in contact with the walls of a cavity, so as the amalgam sets the contact becomes less perfect.

A careful examination of the slides indicates that the mass is wholly built up of crystals, and that they are for the most part rhombs of about $\frac{1}{800}$ to $\frac{1}{1200}$ of an inch in diameter, and about twice as long as they are wide; as many of them—in fact the majority—stand up on one end on the free surface, it has a sort of resemblance to a pavement epithelium, but it is also on a minute scale furry. The driest of the samples has not so lustrous a surface as the others, even the under surface which is in contact with the glass being less bright, and this is seen to be due to the presence of a certain amount of dull granular-looking material.

All these slides were prepared with Welch's amalgam, which was selected because it is one of simple and known composition, containing only silver and tin in known proportions—tin 51·52, silver 48·48, or nearly atomic proportions; and the tendency of thin slabs to curl up as they set, which has been described by several observers, could hardly be detected in any of them, they all remaining nearly flat.

The size of the crystals differs greatly in different amalgams; thus in the case of Eckfeldt and Dubois' standard amalgam* they are about half the size of those in Weld's amalgam, and in the case of precipitated silver they are even smaller. In this connection it will be remembered that precipitated silver has long been known as forming an excellent filling, though it discolours the teeth greatly. It may be that this sprouting of crystals all over the surface is the cause of some amalgams which fail to show any expansion by the specific gravity test, nevertheless breaking glass tubes in which they are packed. But it must also be remembered that it is not certain that the crystals do sprout up; it may be that the intermediate portions sink.

We have, perhaps, here an intelligible explanation of the addition of old amalgam, reheated and mixed with fresh amalgam, causing very rapid setting of the whole. Not only does the old amalgam tend to re-crystallise as soon as it cools, but it causes the new to do likewise. Just as a crystal dropped into a saturated solution of certain salts in water causes the immediate crystallisation of the whole, so apparently does the crystallisation of the old bring about that of the new. It remains to see what is the practical application of these facts. In the first place, with any freshly mixed and comparatively slowly setting amalgam, we cannot control the surface—it will become covered with small crystals, however smooth it may have been made at first. And though these crystals are very small, this roughening of the surface is not a change in the right direction. But these crystals are not dead hard; as I pointed out in my former paper, if an amalgam setting with inconvenient rapidity be burnished in, its surface remains smooth and burnished, and retains, to a great extent, its burnish, and if examined microscopically, the characteristic crystals can only to a very slight extent be discovered. So far, then, it must be right, only unfortunately it is so difficult to do. And here comes in the very interesting discovery of Dr. Black, which he terms the "flow" of amalgams. He found that by the steady pressure of a strong spring a foreign body could be squeezed into an amalgam which had set without any apparent breakage or crushing occurring. This I can confirm. The form in which I tried the experiment was to take a piece of platinum wire and squeeze that upon the mat surface of one of my fully-set amalgams, with the result that not only did a dimple appear, but on examining under a low power, the longitudinal striæ, due to the drawing down of the platinum wire, were exactly reproduced, and the crystalline structure had wholly disappeared in the bright pit. In other words, the crystals are plastic, and the hard amalgam is capable of taking an impression of a degree of delicacy which it will not when fresh, or, to speak more accurately, which it will neither take nor retain when fresh, so that here again is an argument in favour of the immediate setting.

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* Silver 52, tin 40·60, gold 4·40, copper 3 (from the "American System of Dental Surgery").

But although "flow" of amalgam is a most interesting fact and differs from mere softness, such as that of lead, in that time is required and the result cannot be got by immediate pressure, yet I do not for a moment believe that it has, as supposed by Dr. Black, anything to do with the ultimate failure of amalgam fillings, for I doubt if the very intermittent pressure to which they are subjected would bring it about.

The crystallisation may have something to do with the brittleness of thin edges of amalgam, and those with the smallest crystals might be expected to be the strongest in this respect; and it is an argument in favour of lining large cavities with phosphate cement, which always makes a water-tight fit.

And here let me add one word as to the composition of amalgams. I believe that an enormous amount of experience in the hands of countless operators has been utterly wasted through our being content to use amalgams the composition of which is unknown to us; for my own part, since I have been experimenting I have resolved to use no amalgam the composition of which is not known to me, and I think that the manufacturers would do well to always publish it on the bottles; it is not as if it were a secret which could be kept, as it merely involves the expenditure of a little time and trouble to make an analysis, or the expenditure of a few shillings in getting it made for one.

Now to turn to actual practical manipulation. If a fresh mix of amalgam be put upon a hot plate, heated till it just begins to swell, it sets almost instantly, and can be used almost like fusible metal with a heated burnisher, being picked up by a cup end of the instrument; this method is of use in finishing fillings, as they can be got perfectly hard by this means at once. But as a concession to the weakness of the flesh, some of the advantages of the use of an inconveniently rapidly setting amalgam can be got by adopting the following course. A little amalgam is mixed in the ordinary way and rubbed round the cavity. And here I may say that I strongly adhere to the opinion which I have expressed before in several places, namely, that if a fresh amalgam is to be used, there is no method which in its results approaches that advocated by Dr. Bonwill. This, which is or should be sufficiently well known, consists in squeezing the amalgam in the cavity, that is to say, using it fairly plastic, and forcibly squeezing out the excess of mercury by means of little pledgets of wool or bibulous paper. By this method, and by this alone, have I sometimes got quite water-tight fillings with a fresh amalgam.

To return to our cavity. After the lining has been thus inserted and no great proportion of the total cavity filled (and it does not much matter if it gets wet at this stage), a mix is made of the rapid setting amalgam, which can then be easily squeezed into that already in the cavity and rapidly burnished down as it sets. A very convenient way of managing this is to mix up some amalgam to a barely plastic condition, spread it out thin, and after it has set break it up in a mortar. This is mixed with an equal weight of fresh fillings and kept in a bottle ready for use; when required it is heated in a spoon till the mercury shows a little, and then quickly rubbed up with some more mercury.

This mixture does not set with such rapidity but that it may be fairly easily used alone.

In the case of the standard amalgam, the mixed fillings require a little more than their own weight of mercury to make a convenient mix, and an altered form of the balance issued by Mr. Fletcher comes in conveniently for this purpose.

The amalgam already in the cavity is, if necessary, again dried, and perhaps some of it removed, and the rapidly setting mass packed in. In this way the practical difficulties are removed, and the results are very good, as the surface and edges all consist of the rapidly setting amalgam; or the filling may be finished by using pieces of new amalgam picked up from a hot plate; if it has set before you have done, heating the instruments, and heating each added piece, renders it again plastic. The proportions given, I need hardly say, would vary for different amalgams, and as experience is gained less mercury, or a larger proportion of old amalgam, can be used. It is of course only possible to set forth a general outline of the outcome of my experiments.

In conclusion, I would mention one or two pitfalls which may have discouraged some who have tried to follow the lines at first indicated. Unless the cavity be a simple one there is a danger, if every part be not thoroughly burnished, of leaving crumbly places in the amalgams, especially in undercuts.

Then, again, in using old pieces of amalgam there is an uncertainty as to their composition, and still more as to the quantity of mercury that they contain, which militates against constant results; for this reason I advocate a specially prepared old amalgam. And it is possible—indeed most probable that different amalgams will respond best to different treatments, hence I have kept to one single kind.

For the intelligent use of amalgam I would bid you remember that amalgam even fully set has, as shown by Dr. Black, a certain sort of plasticity; that in this state it takes moulds of exquisite precision; that the nearer it is to its full setting the better your chances of attaining this excellence; that heat resoftens it, even to the extent of fluidity; and that thus treated it sets again instantly.

I am only too well aware that these observations merely touch the fringe of the subject, and that the fact that amalgams crystallise has been, in a vague way, long supposed to be the case. But I do not think that any exact observations on their crystallisation are to be found on record. I have not as yet examined any amalgams which of themselves set with very great rapidity, and my only apology for submitting observations so incomplete, is that the subject is so large and so difficult that it may not be threshed out in our time, and the more observers there are at work the better the chances.

On the Formation and Structure of Dental Enamel.*

By J. LEON WILLIAMS, D.D.S.Baltimore, L.D.S., R.C.S.I.

ALMOST every anatomist or histologist of note since the time of John Hunter has made some contribution to the subject of this paper. In going over the literature of the theme, one is struck by the wide divergence of opinion expressed—a divergence which is as marked and emphatic to-day as it was forty or fifty years ago. Broadly speaking, all who have written on the subject may be separated into two groups or schools: those who have taught that the formation of enamel is effected by direct cell-calcification, and those who have claimed that the tissue is produced by a secretion—by the calcification of a cell product. Between 1850 and 1860 Professor Carpenter was maintaining the former position, and during the same time the late Professor Huxley wrote several papers antagonising this view, and claiming that enamel could not be produced by any conversion of a cellular structure. Curiously enough, his main contention was correct, although founded upon mistaken premisses. In 1848 the late Sir John Tomes delivered a course of lectures in which he taught that enamel formation is the result of the calcification of the enamel-forming cells. His son, Mr. Charles Tomes, in the last edition of his work on Dental Anatomy, published in 1894, still holds to this opinion, and these views are also shared by Waldeyer, Wedl, and many others. On the other side, Professor Schäfer in England, Professor Spee in Germany, and Dr. Andrews and Dr. Sudduth in America have maintained that the enamel cells or ameloblasts are not directly calcified, but that they are the active agents in producing the material from which enamel is formed.

It is not my intention to present a summary of the history of the literature of this subject, and I have mentioned the foregoing names merely to show that the most eminent teachers have held, and still hold, widely different views. This difference, I believe, has largely grown out of relying too closely on one or on a few particular methods of working. I have seen many illustrations of the possibility of drawing contradictory conclusions from appearances presented by different methods of treating tissues, each of these conclusions very probably representing a half truth. Another reason may also be found in the very great difficulties attending the preparation of thin sections of developing teeth with all of the tissues in their normal relations. In deciding, therefore, to reinvestigate the whole field of the development of the teeth, I determined at the outset to adopt a large number of methods of working, in the hope that by comparing the results of widely differing treatment I might unravel some of the tangles in which the subject has always been involved. I selected for the commencement of my work embryos of the cat, dog, sheep, cow, hog and monkey, as well as human embryos of all stages of development. The rodents were also represented by mice, rats and guinea pigs. Some of the material was cut while fresh and some immediately after fixing by freezing processes. Other material was fixed and hardened by a great variety of processes and embedded in balsam by the Weil process or decalcified by different acids and embedded in paraffin and celloidin. More than thirty different stains and combinations of stains have been tried, and sections have been mounted in balsam, Farrant's medium, glycerol, sulpho-carbolate of zinc in glycerol (my favourite medium for purposes of study), and other preservatives. As there is but little difference of opinion concerning those earlier stages of tooth development which precede the commencement of the formation of dentine and enamel, we need give no further attention to this period than is necessary for an introduction to the subject proper. All students of dental histology are now aware that the teeth are developed from two distinct tissues. The so-called enamel organ is a product of the oral epithelium, while the dentinal germ or papilla is formed in the submucous or dermal tissues, the former being the first to appear.

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* An abstract of a paper read before the Royal Society, December 12, 1895.

The first sections cut for these special studies were from the jaw of an embryo lamb at a period just after the commencement of enamel formation. The material was fixed in a saturated aqueous solution of corrosive sublimate, partially decalcified in a weak solution of chromic and nitric acids, and embedded in paraffin. Sections were stained with a modification of the Ehrlich-Biondi fluid. The appearances were different from anything I had before seen. There was no trace of a prismatic character in the partially decalcified enamel, but instead a faint appearance of fibres running parallel with the inner ends of the ameloblasts, with small globular masses irregularly distributed among them.

Fibrous Character of Enamel.

With the suggestions which this specimen gave me I prepared some extremely thin sections from the persistently growing incisor of the rat. The enamel rods in the enamel of the rat, as is well known to those who have studied the subject, terminate a little below the surface, leaving on the outside a thin layer of clear and apparently structureless enamel. A partial decalcification of this layer showed a stroma composed of two sets of fibres running in nearly opposite directions, neither direction corresponding with the long axis of the ameloblasts. One set of fibres passes in a somewhat more oblique course than the other and becomes confluent with the ends of the enamel prisms. The other set of fibres sweeps downward on a circular course, crossing the more oblique-running fibres and the enamel prisms nearly at right angles. Sometimes both sets of fibres join and twisting about each other in a rope-like design, pass along the course of the enamel prisms (fig. 1). It is probable that the arrangement of fibres is fairly constant in teeth of the same animals, although differing widely in teeth of different animals; but it is only by cutting sections in a great variety of directions that one at last gets a true picture of the complex arrangement of fibres and rods. Enamel from the teeth of rats and mice shows a more marked fibrous character than any other that I have examined, and the most striking feature of arrangement of the fibre is the interlacing or weaving together of those running in different directions, like warp and woof in a web. This is very plainly shown in fig. 2, where the torn edge of the enamel bears a striking resemblance to the effect produced by tearing a woven fabric of any sort.

STRUCTURELESS BASEMENT MEMBRANE OR MEMBRANA PRÆMAFORMATIVA.

By means of selective stains I have been able to demonstrate the existence of a membrane-like structure lying between the ameloblasts and the forming enamel, and also between the ameloblasts and the stratum intermedium. It is uncertain whether this structure is identical with the membrana præmaformativa of Raschow, Huxley and others. Its existence has been disputed by several of the more recent writers upon this subject, but it is plainly shown in figs. 3, 4, 5, 6 and 7. I suggest that the structure lying between the ameloblasts and the stratum intermedium be called the *outer ameloblastic membrane*, while that which separates the enamel cells from the forming enamel may be known as the *inner ameloblastic membrane.*

THE CELLS OF THE STRATUM INTERMEDIUM.

It has for many years seemed clear to me that the enamel organ, and more especially the cells of the stratum intermedium, should be classed among the true secreting tissues. I am not able to understand how so many good observers have failed to see the intricate plexus of blood vessels, which is very early developed in this layer of cells. Wedl, Magitot and Legros, Sudduth, and others say that they have uniformly failed to detect a blood supply within any part of the enamel organ proper. If we examine the evolution of this tissue in the enamel organ of the mouse or the rat its place among glandular structures at once becomes evident. All appearance of round, polygonal, or oblong cells, as usually seen in the stratum intermedium, has entirely disappeared, and in their place we have a highly differentiated secreting tissue. The ameloblasts are surmounted by epithelial papillæ, around and between which is a free distribution of capillary loops. The ameloblasts are seen to be in intimate relation with the papillæ, each ameloblast seeming to have a root-like process which extends into and is lost in the substance of the papilla to which it belongs. The diameter of each papilla is equal to about that of five or six ameloblasts, and each papilla may therefore be said to supply from twenty to twenty-five ameloblasts. Blood vessels are seen, in both transverse and longitudinal section, everywhere about the papillæ, and we may often observe branches descending to supply the loops which pass round the ends of the papillæ lying next the ameloblasts (fig. 2).

At the commencement of enamel-formation in the teeth of the mouse there is but little indication of a special secretory organ, as may be seen by referring to fig. 4. We see here that the outer ameloblastic membrane is not structureless, but is apparently composed of very fine fibres.

METHOD OF FORMATION OF ENAMEL.

Several observers of distinction, notably Dr. R. R. Andrews and Professor Spee, have described the development of enamel as a process in which the tissue is formed by the deposit of droplets or spherules of calcoglobulin. This view is undoubtedly correct, but, as stated by the writers mentioned, it does not include all the phenomena that may be observed. The ultimate structure of completely formed enamel shows that it is built up by the deposit of bodies which are of very nearly uniform size. There is, as we shall see, no uniformity in the size of these masses of calcoglobulin, neither is there anything in their structure which corresponds with that of formed enamel; in fact, under the finest lenses that are made they show as highly refractive masses without definite structure. Although they are usually more numerous at the inner ends of the ameloblasts, next to the forming enamel, they may be seen throughout the entire length of these cells, and I have often seen them lying close up to the membrane which separates the ameloblasts from the stratum intermedium. Occasionally I have espied them when they seemed to be actually in, or emerging, from this membrane. Such appearances are shown in fig. 5. It is possible, and I think highly probable, that this substance, although appearing in the ameloblasts, is really formed in the more specifically secreting cells of this stratum intermedium. These masses probably consist of calcoglobulin, an albumin-like substance holding calcific material in solution. Its function, I believe, is not the building up of the enamel rods as has heretofore been supposed, but the formation of the interprismatic or cement substance which binds the enamel rods together. It is clearly shown in Fig. 6 that the enamel rods are formed by the superposition or continuous deposition of bodies which are spherical when they leave the enamel cells, but by compression or chemical action are more or less changed into a disc-like shape as they take their place in the building of the enamel rods. Thus for the first time we have a clear explanation of the varicose appearance of the rods or prisms in completely formed enamel. Each varicosity of the rods represent one of these globules or disc-like bodies. In the inner portion of enamel next to the dentine the enamel globules usually melt together so completely that their individual form is lost, but as we approach the outer surface of the enamel the rods are clearly seen to be composed of globular or flattened bodies, not completely united, but still connected by calcified plasmic strings. These plasmic strings, of which there are many to each enamel rod, are often seen under a power of from 800 to 1000 diameters to be made up of granules, and these granules, so far as our present powers of observation are concerned, constitute the ultimate structure of enamel.

THE CROSS STRIÆ AND RETZIUS BANDS.

My observations on these points have led me to totally different conclusions from those reached by Professor von Ebner of Vienna. Professor von Ebner regards the striæ of the enamel rods as an artificial appearance produced by the action of acids, and the Retzius bands as due to ground-off or artificial prism ends, and also to imprisoned air or gas contained in minute tubes or canals.

I have clearly demonstrated that the cross striæ are due to the varicose enlargements of the enamel rods, and that these varicosities are produced by the successive deposit of globular masses from the enamel cells. The deposit of these bodies is simultaneous over the entire surface of the forming enamel, hence the regularity of the lines of striation and increment. I have further shown that the Retzius bands cannot be due to air or gas in minute canals, because

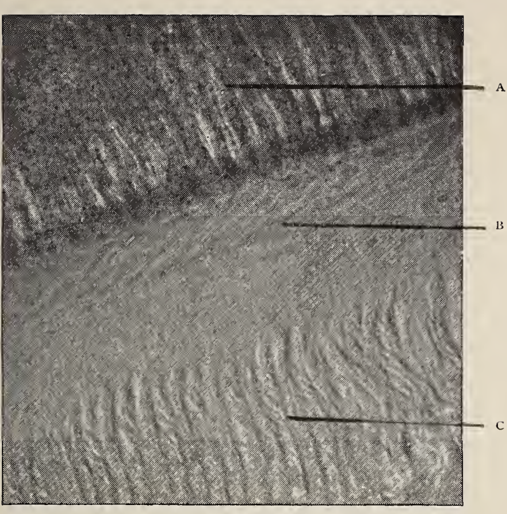

Fig. 1.

Forming enamel from incisor of rat. × 800. A, Enamel cells. B, Outer fibrous layer of enamel. C, Enamel rods showing twisted fibres.

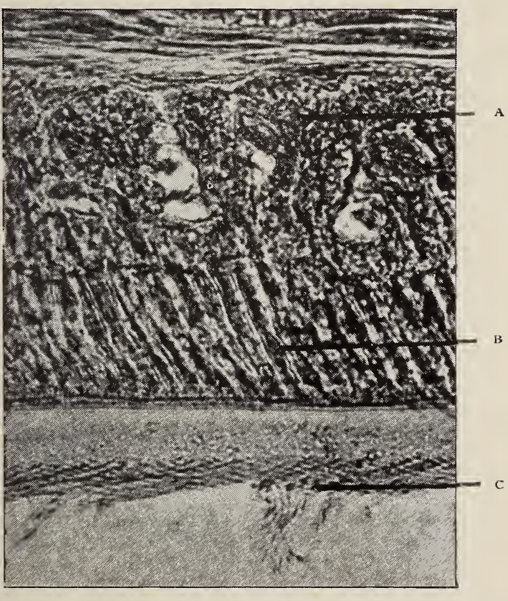

Fig. 2.

Forming enamel of rat. × 400. A, Secreting papillæ of enamel organ. B, Enamel cells. C, Torn fibrous edge of enamel.

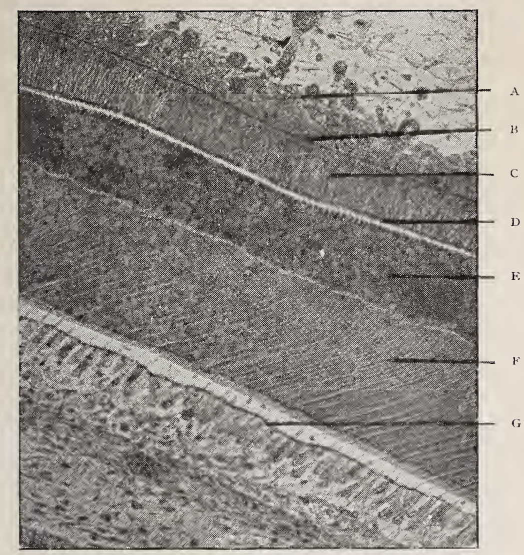

Fig. 3.

From longitudinal section of developing tooth of lamb. × 150. A, Secreting cells of stratum intermedium. B, Outer ameloblastic membrane. C, Ameloblasts or enamel cells. D, Inner ameloblastic membrane. E, Enamel. F, Dentine. G, Odontoblasts.

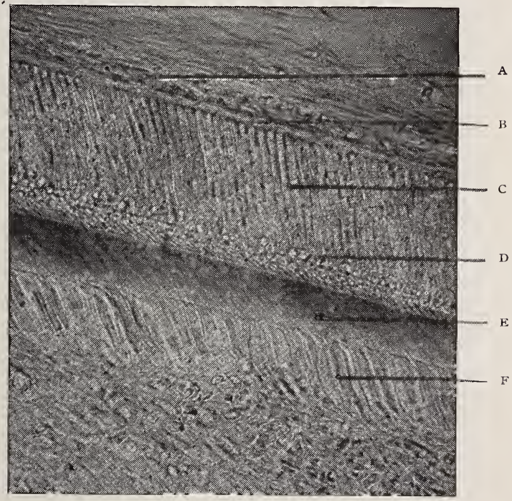

Fig. 4.

Section of developing incisor of mouse. × 400. A, Cells of stratum intermedium from which secreting papillæ are developed. B, Outer ameloblastic membrane. C, Ameloblasts. D, Formation of enamel by deposit of globular bodies from enamel cells. E, Dentine. F, Odontoblasts.

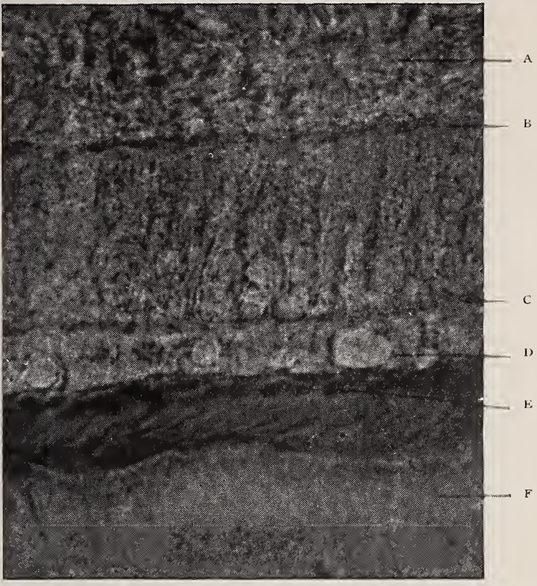

FIG. 5.

Formation of masses of calcoglobulin in enamel organ of lamb's tooth. × 800. A, Stratum intermedium. B, Outer ameloblastic membrane. C, Inner ameloblastic membrane. D, Calcoglobulin masses. E, Enamel globules from which enamel rods are formed. F, Dentine.

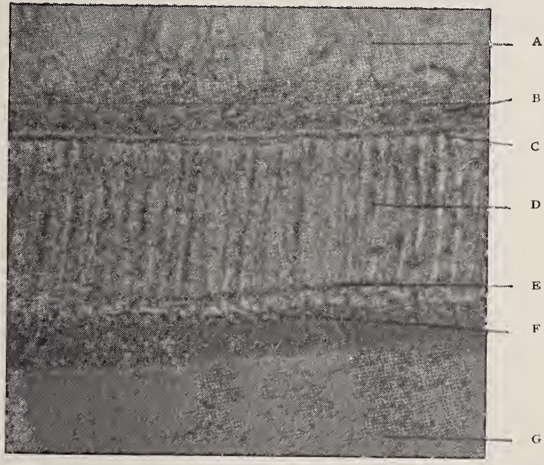

FIG. 6.

Section of developing tooth of human embryo. × 600. A, Reticulum of enamel organ. B, Stratum intermedium. C, Outer ameloblastic membrane. D, Ameloblasts. E, Inner ameloblastic membrane. F, Formation of enamel rods by successive deposit of enamel globules. G, Dentine.

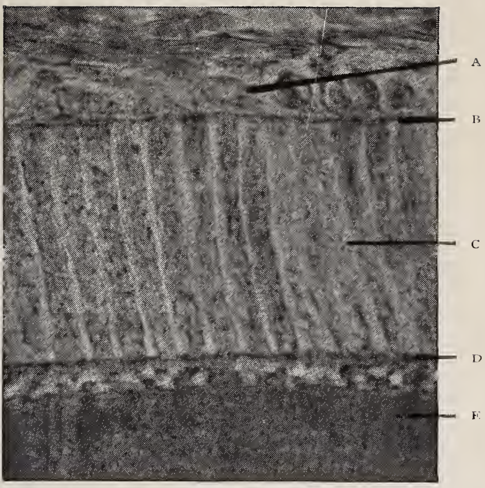

FIG. 7.

Section of developing tooth of dog. × 1000. A, Stratum intermedium. B, Outer ameloblastic membrane. C, Ameloblasts showing small masses of calcoglobulin D, Inner ameloblastic membrane. E, Enamel.

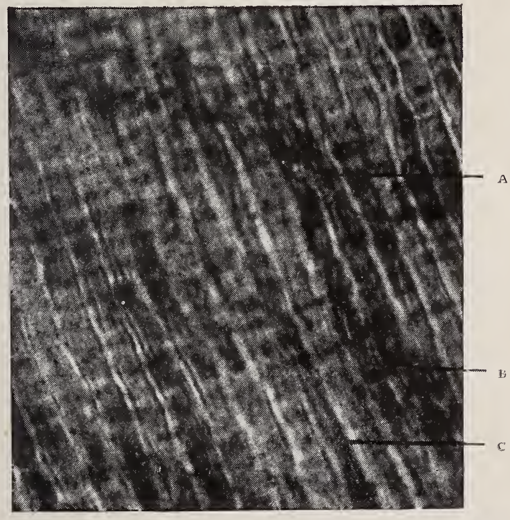

FIG. 8.

Human enamel. × 1,000. A, B, Bands of Retzius. C, Enamel rod passing through bands without break of continuity.

there are no such canals in normal human enamel. Neither are these bands due to the ground-off ends of enamel rods, as may be clearly seen from fig. 8, where the rods are seen to pass through several bands without break in their continuity. The Retzius bands are caused by pigmentary matter in the granules which constitute the ultimate structure of enamel. Completely formed normal human enamel contains no living matter in the sense in which this term is generally understood. There are consequently no nutritive changes in enamel after it is once formed.—*Lancet.*

Furnaces for Continuous Gum Work.

At the usual monthly meeting of the Manchester Odontological Society held on March 3, 1896, Mr. Gartrell demonstrated two new furnaces for continuous gum work. The first was a small one for baking porcelain crowns, blocks, or bridges. It is illustrated in fig. 1. The muffle is made of drawn nickel which is practically infusible; it is $1\frac{1}{2}$ in. wide by $1\frac{1}{8}$ in. high, and $3\frac{1}{4}$ long. It is fitted with a nickel tray on which flint powder or silex is placed to support the work to be fired. The baking of a crown, or block to be mounted on vulcanite, is done in from three to four minutes. A door is not used to close the muffle whilst baking, so that the porcelain work can be inspected during the firing, and the fusing point is easily seen. The

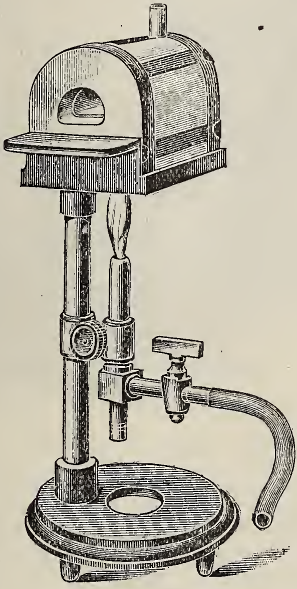

Fig. 1.

muffle is fitted with a nickel tube that acts as a flue, and causes a slight current of air through the muffle, increasing the brilliancy of the porcelain colours. About one dozen shades of porcelain body and gum enamel are supplied with the furnace. Mr. Gartrell baked a block of four teeth in about four minutes, doing it very easily with a Fletcher blower and ordinary gas.

Fig. 2 shows the larger furnace for continuous gum work. It is also fitted with a nickel muffle $5\frac{1}{2}$ in. long by 3 in. wide inside, shown at G, sufficiently large for any case.

In the use of nickel for these muffles, gassing of the work (the great bugbear in continuous gum work) is avoided.

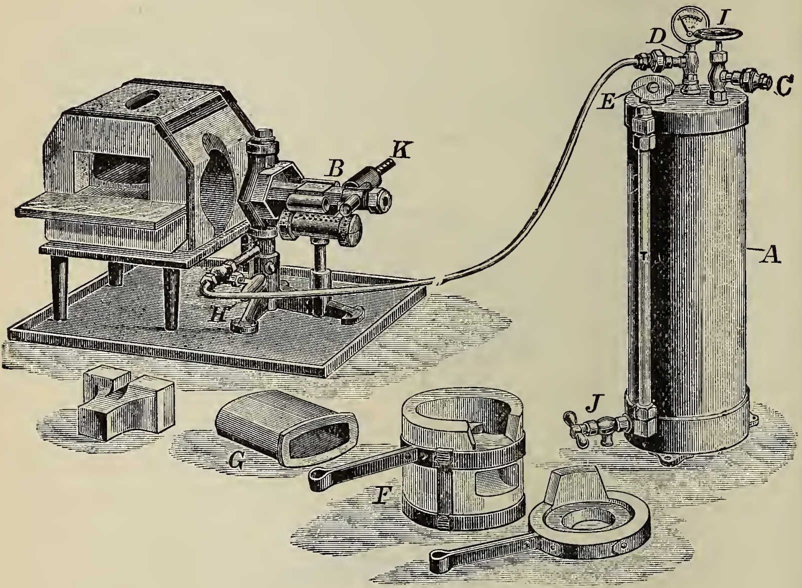

FIG. 2. FIG. 3.

This furnace is heated by a novel and very effective method of using ordinary petroleum or paraffin oil, such as is used for lamps. A, in fig. 3 is the tank which is filled with oil by removing the screw plug E. The tap I is connected by the union C to the town water supply, to obtain the pressure necessary to work the burner. The gauge D shows the pressure which may be at any point above 25 lbs. The greater the pressure the water produces on the oil the more powerfully the burner works. B, in fig. 2 is the petroleum burner; it is connected to the lamp A by a small copper tube. K, is a coal gas burner for giving a preliminary heat to the petroleum burner. The gas burner does this in about one minute, and the petroleum burner is then ready to start. This is done by opening the valve on tank and letting in the water. The oil is pressed through the copper tube (which may be any length) and through the passages of the burner.

The heated metal turns the oil into vapour, which, issuing through the two nozzles with some force, burns with a blue flame, which is projected into the furnace around the muffle by adjusting the valve I on the tank; the power of the flame is controlled instantly to work at any pressure desired, which is shown by the pressure gauge; 4 or 5 lbs. pressure is sufficient to start with for heating up.

The work having previously been placed in the muffle on a nickel slide, when the muffle gets red hot, the valve I is opened wider, and the full pressure of the water supply may be used. About fifteen to twenty minutes is generally taken to fire a case, but it may take shorter or longer if desired. By opening the tap at the bottom of tank, water escapes and the pressure is instantly stopped, and the burner ceases working. If the furnace is red hot, the burner is instantly started again by closing the tap. It is as quickly done as switching on and off electricity.

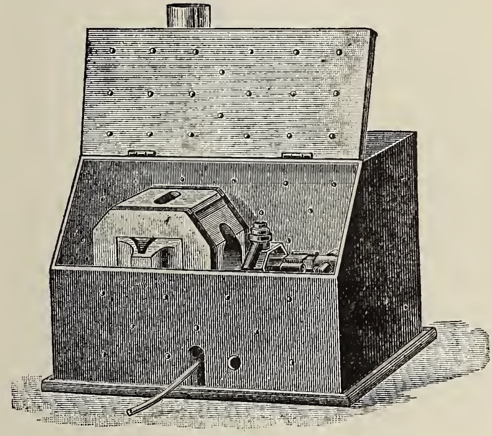

FIG. 4.

The glass tube T on the side of the tank shows the quantity of oil in the tank, which holds about a gallon, and will heat up the furnace to the baking point of porcelain about ten or twelve times, so that the cost for oil in baking a case is less than one penny.

To show the power of the burner, 10 lbs. of brass in a crucible furnace can be melted in half an hour starting cold. When the oil in tank is nearly used, the water is run off by opening the valve J and unscrewing the stop plug E. The tank can then be refilled with oil. Where water pressure cannot be obtained, or is not convenient, the tank A is fitted with an air pump which easily produces 40 or 50 lbs. pressure in half a minute, enough to bake one or two cases, and is as effective as water; the only consideration being the work required in pumping, whereas with water it is only necessary to turn a tap.

The burner makes considerable noise, but not so great as when benzoline is used, and by placing the furnace in a hood of sheet iron and asbestos, as shown in fig. 4, the noise is reduced to about half, and is not then objectionable, and there is no smell of the oil, &c.

The small furnace shown at F is for heating up work to be soldered with a blowpipe, such as an invested set of continuous gum teeth. The furnace (fig. 2) is lifted off the stand and the furnace F put in its place, and the work heated with the petroleum burner to a red heat. The furnace is then removed by the handle to the work bench, and the set soldered with the oxygen blowpipe, the pieces of solder having previously been placed in position. A full upper set can be soldered by using oxygen in one minute.

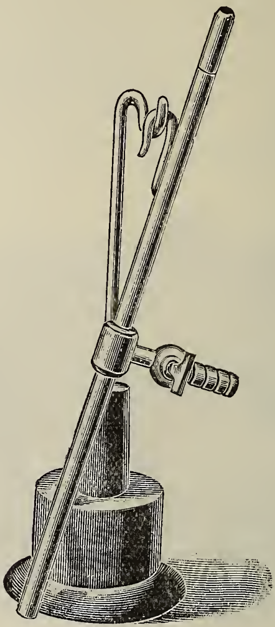

FIG. 5.

Fig. 5 is an illustration of the oxygen blowpipe.—*British Journal of Dental Science.*

Reg. *v.* Priestley.

TO THE EDITOR OF THE "TIMES."

SIR,—The excellent and, in many respects, exhaustive leading article which appeared in your issue of May 28, and treated of the question of the legal qualifications required for the exercise of the medical and dental callings, suggests the desirability of drawing attention to some points which are not fully discussed in it, nor in the correspondence which followed it.

The fact that there is no penalty incurred by the unauthorised exercise of such callings, but only by the assumption of certain specified titles which imply the possession of qualifications, is not at all well known. The public are not sufficiently familiar with these titles, and are very easily deceived by the assumption of colourable imitations of them; moreover, there is a general idea, even in quarters where more accurate information might be expected, that there are actually restrictions upon practice, which natually leads to the belief that a person openly practising must be possessed of a qualification.

The legal profession is far more efficiently guarded, although it does not deal with matters of life and death, nor of health. A man cannot act as a solicitor without incurring severe penalties. But the *maximum* penalties which can be imposed under the Medical and Dental Acts are not sufficiently heavy to be strongly deterrent, and in cases in which the law, as it now stands, can touch the offender at all, it is found that the Courts are reluctant to impose the *maximum* penalties, so that it often, indeed generally, happens that the punishment is inadequate.

In England, to a greater extent than in almost any other country, the quack has a free hand, and is exposed to a less punishment even when brought to conviction; indeed, it may almost be said that he is in a position of greater security than the properly qualified practitioner, from whom the exercise of reasonable skill, care and knowledge is required, else he becomes guilty of *malpraxis*. But practically the quack can plead ignorance, and does so, and it often avails him, so that miscarriages of abstract justice are of frequent occurrence.

Thus, in the case commented upon in your article, it was abundantly shown that the defendant acted as a fully qualified medical man would not have acted; or, had he done so, he would have exposed himself to a charge from which, perhaps, he would not have escaped so lightly.

In order to be logical, consistent and efficacious, the law should unquestionably be altered so to make the act of practice for gain, and not the mere assumption of titles, the punishable offence, and nothing short of this can really efficiently protect the public. In the trust that the great influence of the *Times* may be exercised in order to bring about this much-needed reform,

I remain, yours truly,

—*Times*. CHARLES S. TOMES.

Reviews and Notices of Books.

ON EXTRACTION, with Notes on the Anatomy and Physiology of the Teeth for Medical Students. By W. D. WOODBURN, L.D.S. London: Baillière, Tindall & Cox, 20 and 21, King William Street, Strand, 1896. (All rights reserved.) Pp. 96 (no index).

THAT a concise and reliable work on dental surgery would prove useful for medical students is undoubted, but the volume before us can hardly be said to fill that gap. It deals with extraction, and briefly with certain points in the anatomy, physiology, and pathology of the teeth, but it leaves untouched many questions of really the utmost importance to the medical practitioner, such as the diagnosis of toothache, the treatment of children's teeth, &c., &c. It therefore fails to give the medical student all the knowledge that is really necessary for him in practice, while, on the other hand, with the question of extraction it leaves many points wholly untouched, and we have only to mention that the treatment of so important a complication of extraction as hæmorrhage is not dealt with.

The first fifty-six pages deal with development and absorption of the teeth, eruption of the temporary and permanent dentitions, caries, the dental pulp and periosteum, and also contains a chapter on the naked-eye anatomy of the teeth. Generally speaking, the information afforded is meagre, and in some ways not quite in keeping with modern views—indeed, in places quite misleading; and lastly, the style is more that of a book written for the general public than the medical student.

An idea of some of the teaching contained in this book can be obtained from the following extracts:—"Absorption of the tooth always begins at the apex of the root." In referring to caries the author states, "Attempts have been made to substitute for the word 'caries' the term 'decay;' the term, which is more descriptive of what actually takes place, and which cannot be confounded with any other process that attacks hard structures, is 'decalcification.'" Such an expression as "decalcification" is misleading, and does not in any way explain the phenomena of caries, and fails to give an idea of the fact that the tissue, when decalcified, is acted upon by peptonising bacteria—a most important phenomenon of caries.

We also learn that "decalcification (*caries*) of the teeth is peculiar to the young." It is, in reality, peculiar to no age, but it is perhaps more prevalent in the young than the old; but to say "by the time the subject has reached the age of twenty the largest number of cavities have formed" may be true in some, but by no means all cases.

The portion of the book dealing with extraction is also open to much criticism. The value of the teaching of this portion of the book can well be illustrated by a few examples. For instance, after referring to fracture of a tooth, the author states that it is unnecessary to enumerate the many other accidents that may occur during extraction, and then states "the three which occur most frequently are fracture of the jaw, or part of the jaw, dislocation of the jaw, and the chance of the tooth slipping away from the instrument and lodging in the trachea." In referring to the position of the patient we read, "the patient should be placed as low as possible when removing lower teeth, and as high as possible when removing upper teeth, so as to increase in the one case your lifting power and in the other your traction downwards." Then we read: "When using the hawk's-bill forceps for lower right bicuspids and lower right molars, let him (*operator*) stand on the left side." In such a position the operator must necessarily work at great loss of power.

The elevator is recommended for the removal of upper stumps, and in addition we find the author an advocate for the key under certain conditions. Scientific dentistry had, we thought, abolished this "unscientific instrument."

All points considered, we should not feel inclined to recommend the book for the purpose it is intended, and think the medical student would gain more information in extraction by reading a chapter on that subject in some reliable work on dental surgery.

Miscellanea.

Pass List of the Royal College of Surgeons of England.

The following gentlemen having passed the necessary examinations were admitted Licentiates in Dental Surgery: E. Ashby, Guy's Hospital; W. B. Barnard, L.R.C.P.Lond., Charing Cross and the Dental Hospital of London; E. D. Bascombe, Guy's Hospital; E. F. B. Beyer, Owens College and Royal Infirmary, and Victoria Dental Hospital, Manchester; L. Bidlake, Guy's Hospital; E. A. Blomfield, Charing Cross and the Dental Hospital of London; W. W. Briant, Guy's Hospital; T. W. Byrne, University College, Royal Infirmary, and Dental Hospital, Liverpool; S. Carter, Mason College, Queen's and General Hospital, and Dental Hospital, Birmingham; E. Coltman, Guy's Hospital; H. Conder, Charing Cross Hospital and the Dental Hospital of London; G. W. Connor, M.R.C.S.Eng., Middlesex and the Dental Hospital of London; H. C. Cowles, Guy's Hospital; H. S. Crapper, Guy's Hospital; A. E. B. Crasby, Guy's Hospital; K. J. Day, Charing Cross and the Dental Hospital of London; A. De Mierra, Guy's Hospital; H. Dunlop, Charing Cross and the Dental Hospital of London; J. E. Dupigny, Guy's Hospital; G. R. Edey, Guy's Hospital; S. B. Fisher, Mason

College, Queen's and General Hospital, and Dental Hospital, Birmingham; H. O. W. Harris, Guy's Hospital; E. E. D. Heeson, Guy's Hospital; F. Hemsted, Charing Cross and Dental Hospital of London; W. E. Hill, Middlesex and National Dental Hospital; C. J. Hinchcliff, Guy's Hospital; A. F. A. Howe, Guy's Hospital; S. A. Knaggs, Charing Cross Hospital and the Dental Hospital of London; W. J. M. Lacey, Guy's Hospital; F. W. Mardon, Charing Cross and Dental Hospital of London; H. W. Moore, Glasgow University, Middlesex and National Dental Hospital; O. Mordaunt, Charing Cross and Dental Hospital of London; W. Mudie, Charing Cross and Dental Hospital of London; C. Mullord, London and National Dental Hospital; E. A. Newbery, Charing Cross and Dental Hospital of London; A. P. Nixon, University College, Royal Infirmary, and Dental Hospital, Liverpool; N. H. Oliver, Guy's Hospital; A. E. H. Orridge, Charing Cross and Dental Hospital of London; F. J. Padgett, Charing Cross and Dental Hospital of London; A. G. G. Plumley, Guy's Hospital; A. Read, Guy's Hospital; C. J. H. Riches, Middlesex and National Dental Hospital; A. M. Robey, Mason College, Queen's and General Hospital, and Dental Hospital, Birmingham; W. Sexton, Middlesex and Dental Hospital of London; J. W. Skae, University College, Royal Infirmary, and Dental Hospital, Liverpool; N. Snell, Guy's Hospital; H. H. Staton, Charing Cross and Dental Hospital of London; R. H. Stevens, Guy's Hospital; L. Ta'Bois, Guy's Hospital; B. G. Tasker, Guy's Hospital; E. R. Tebbitt, Guy's Hospital. Sixteen gentlemen were referred back to their professional studies.

Statistics of Anæsthetics.

Some useful statistics relating to anæsthetics in Sweden are quoted in a recent issue of the *British Medical Journal*. "At the meeting of the Scandinavian Surgical Society in July, 1895, the following statistics of the administration of anæsthetics in the Scandinavian countries were presented. The total number of administrations from February, 1894, to May, 1895, was 14,815, distributed as follows: Chloroform, 11,047 cases, with 5 deaths; ether, 1,279 cases, with no death; chloroform and ether, 2,122 cases, no death; bromide of ethyl, 367 cases, no death.

'Asphyxia and syncope' occurred in 1·39 of the chloroform adminstrations; in 0·80 per cent. of the ether; and 1·37 of the chloroform-ether cases. Bromide of ethyl shows a clean bill in this respect."

Dental Hospital of London Building Fund.

The following new donations have been received for the Building Account of the new Dental Hospital of London, Leicester Square, since the last list published in the Journal:

Mrs. Baring	£1	1	0
Mr. Browne	1	1	0
B. Tucker, Esq.	1	1	0
Mr. Dickinson	1	0	0
Sir Chas. Jessel, Bart.	1	1	0
B. J. L.	1	1	0
Mrs. M. B. Schiff	1	1	0
Mrs. Metcalfe Smith	1	1	0
M. Lawson, Esq.	1	0	0
Miss Loyd Nicol	1	1	0
Miss P. Blencowes	1	1	0
Miss Alice Balfour	10	10	0
Mrs. Lawrence	2	2	0
F. Relph, Esq.	1	1	0
Charles Denny, Esq.	2	2	0
J. E. Humphreys, Esq.	1	1	0
B. B. Hodgson, Esq.	1	1	0
E. G. Thorne, Esq.	1	1	0
Col. W. P. Dicken	1	1	0
The Merchant Taylors' Company	21	0	0
P. Thursby, Esq.	10	10	0
Sir Henry W. Peek, Bart.	105	0	0
Walter Lazenby, Esq.	10	10	0
Miss Young	5	0	0
Dr. Tatham	1	1	0
J. W. Trapp, Esq.	1	1	0
Dowager Lady Penrhyn (additional)	25	0	0
Leopold de Rothschild, Esq.	5	5	0
Miss Lawrence	5	0	0
Empire Palace, Limited (additional)	3	3	0
Mrs. E. L. Carver	2	2	0

Messrs. Coxeter & Sons	£5	0	0
C. Santley, Esq.	10	10	0
Edgar Speyer, Esq.	5	0	0
Miss Mortimore	10	10	0
S. D. Corbett, Esq.	1	1	0
Miss S. Ramsden	1	1	0
Miss M. B. Harrison	50	0	0
Mrs. Raymond Parr	1	1	0
J. W. Elliott Taylor, Esq.	5	5	0
Harry J. Veitch, Esq.	10	10	0
Richard Winch, Esq. (additional)	10	10	0
J. N. Burke, Esq.	1	1	0
S. J. C., old material	2	19	9
Albert Hicks, Esq.	1	1	0
Miss Clarke	1	1	0
J. T., old material	4	17	11
Miss Douglas Lane	1	1	0
The Earl and Countess of Airlie	10	0	0
W. W. Gabell, Esq. (additional)	1	1	0
Miss Bowden	1	1	0
The Hon. Mrs. Arthur Henniker	10	10	0
The Rev. C. Peek, old material	3	4	0
E. E. Young, Esq.	1	1	0
Sums under £1	1	4	6
Donation Boxes at Hospital	6	10	4
Private Donation Box	0	17	0
Proceeds of a ball at the Queen's Hall, organised by the students	13	0	0

Correspondence.

We do not hold ourselves responsible for the views expressed by our correspondents.

Advertising Dentists.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—Recent events, and also the lay press of the country, point out the need of amended legislation. If any fund is started for the purpose, I shall be pleased to contribute five guineas. In my opinion the addition of the words in small capitals which I have added to Clause 3 would meet all requirements. The Clause would then read as follows:—

3. "From and after the first day of August one thousand eight hundred and seventy-nine, a person shall not be entitled to practise DENTISTRY, OR DENTAL SURGERY, or to take or use the name or title of 'dentist' (either alone or in combination with any other word or words), or of 'dental practitioner,' or any name, title, addition, or description implying that he is registered under this Act or that he is a person specially qualified to practise dentistry, unless he is registered under this Act. *It is hereby declared that the words 'title, addition, or description,' where used in the Dentists Act*, 1878, *include any title, addition to a name, designation or description, whether expressed in words or by letters, or partly in one way and partly in the other.*

"Any person who, after the first day of August one thousand eight hundred and seventy-nine, not being registered under this Act, takes or uses any such name, title, addition or description as aforesaid, 'OR PRACTISES DENTISTRY OR DENTAL SURGERY,' shall be liable, on summary conviction, to a fine not exceeding twenty pounds, provided that nothing in this section shall apply to legally qualified medical practitioners."

Faithfully yours,
A MIDDLE CLASS PRACTITIONER.

The Presence of the Bacillus Coli in the Mouth.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—In your issue of February, you point out (p. 67) a communication presented at a meeting of the Therapeutical Society of Paris, by Dr. Grimbert, on "The Presence of the Bacillus Coli in the Mouth." This communication having been presented in the name of Mr. Grimbert and mine, will you have the kindness to make a little notification?

I am, faithfully yours,
J. CHOQUET.

49, *Avenue de la Grande Armée, Paris.*
May 30.

The Proposed Alteration in the Bye-laws.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—There is a point of great importance, relating to the election of representatives, which I fear was overlooked in the discussion which took place on the proposed alteration of the Association bye-laws at the last Representative Board meeting.

If the principle of election of representatives by the branches is recognised and carried out, the necessity for a general ballot at the annual election will be done away with, and there can be no reason why the Association should be put to all the trouble and expense that has been incurred in conducting the elections during the last few years. The ten members to be nominated independently of branches can be elected at the Annual Meeting without trouble or expense, as was originally the custom, and which is the custom of other associations of a similar nature to ours. This gives members who are not attached to any branch ample opportunity to select representatives, and does not cause any unnecessary friction or expense. In the past it has frequently happened that no nomination papers have been filled up, or sent in, by independent members, and the Business Committee have been in the habit of filling up papers and nominating a number of candidates in excess of the vacancies, so as to make a contested election practicable. It is more than probable that the same thing will occur in the future, and if the amended bye-law comes into force, as it was presented to the Representative Board, our funds and energies will continue to be exhausted in useless strife. Although our Association may be small now, and the expense of printing circulars, voting papers and sending them out to every member of the Association may not be very great, we should bear in mind that we are legislating for the future. If our numbers increase, as we all hope they will, the expense may become serious in the future. If we make bye-laws for the expenditure of our money uselessly, we ought not to complain when we are told that really useful measures cannot be undertaken for want of funds.

Mr. Hutchinson, on his retirement from the Presidency of the Representative Board, said, "the power of the Association for good largely depended upon the strength of the branches uniting in one common cause." In Mr. Hutchinson we have had a President who could see beyond the limits of party, and no one has done more than he has to keep in check any tendency towards party intrigues. Now that he has left us we have lost one of the mainstays for protecting members' privileges, and it is all the more important that our bye-laws should not introduce a dangerous element. Let us rather maintain the spirit in which our bye-laws were drawn up by our great leaders, viz., that which recognises one Association, consisting of the united branches. This is the principle on which the British Medical Association and other important Associations are based, and we need not be ashamed of following their example. I hope members may be induced to look up the subject before the Annual Meeting, so as to be prepared to vote against any interference with our bye-laws unless based on the principle of unity, peace and economy. Yours faithfully,

THOS. EDWARD KING.

10, *Museum Street*, *York*.
July 4, 1896.

Books Received.

HANDELINGEN VAN HET NEDERLANDSCH TANDHEELKUNDIG GENOOTSCHAP (2e Serie, 4e Aflevering). *Utrecht:* J. L. Beijers, 1896.

DEUTSCHE MONATSSCHRIFT FUR ZAHNHEILKUNDE.

The Medical Press and Circular, The Dublin Journal of Medical Science, The Pennsylvania School Journal, Transactions of the Students' Society (Dental Hospital of London), The Govan Press, The Dental Cosmos, The Dominion Dental Journal, The Transactions of the Odontological Society of Great Britain, Items of Interest, L'Odontologie et la Revue Internationale d'Odontologie, The Pharmaceutical Journal, The Chemist and Druggist, The Students' Journal (Liverpool Dental Hospital), The British Journal of Dental Science, The Dental Practitioner and Advertiser, The Dental Journal (University of Michigan), Ash and Son's Quarterly Circular, The International Dental Journal, The Birmingham Medical Review, The Dental Record, The Ohio Dental Journal, The Dental Digest, Guy's Hospital Gazette.

Letters and other Communications received from :—

J. Percy Oliver ; J. Choquet ; J. Charters-Birch ; Harold Pickering ; J. H. Milnes ; Messrs. Burroughs, Wellcome & Co. ; J. C. Foran ; J. Charters-Birch ; R. F. King ; I. Renshaw ; F. V. Richardson ; T. E. King ; T. A. Goard ; Rees Price.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 8. AUGUST 15, 1896. Vol. XVII.

The New Regulations for the L.D.S.Eng.

THE new regulations of the Royal College of Surgeons of England involve several important changes, both in the curriculum and in the examinations, and can hardly be adequately discussed in the scope of a single article. Before these regulations were drawn up and adopted the principal schools were consulted, and may therefore be regarded as to a great extent responsible for them. It is gratifying that the College should have taken this course as it secures the benefit of the experience of both teacher and examiners, and may therefore be regarded as an endeavour to remedy those deficiences which have been practically found to be much in evidence amongst the students under observation, both at these schools and in the Examination Hall.

To the curriculum there have been added courses of practical metallurgy, and a course of practical dental mechanics—a separate course of dental histology, including the preparation of microscopical sections—a separate course of practical dental surgery, and a course of not less than five lectures on the surgery of the mouth.

But these are not all absolute additions, as materia medica, one course of dental mechanics, one course of dental surgery, and one course of dental anatomy are remitted ; thus five courses have been added and four removed from the old curriculum.

In the matter of examinations a much greater change has been made, the candidates having to pass three examinations instead of, as before, one ; but all the other qualifying bodies have already divided their examinations into two, so that the change is not so radical as it might at first sight appear.

The candidate will in future have to pass the same examination in chemistry, physics, and practical chemistry as the candidate for the membership of the College. It is believed that this was the subject of a good deal of consideration, a separate examination in chemistry for dental students having been at one time contemplated. That a knowledge of elementary chemistry is indispensable for the proper understanding of dental science no one can doubt, and that it is impossible to understand the special problems that arise without some knowledge of the general subject is equally indisputable. And as this examination, though a very real one, does not go beyond a general elementary knowledge of the subjects included, it should not prove a serious stumbling-block to the student. Just as in the case of the general medical student, it may be passed before entry at the Dental School, and will go under the title of the Preliminary Science Examination.

The Irish Professional Examination may be taken after six months' attendance at the Dental School, and consists of mechanical dentistry and dental metallurgy, and will be partly practical and partly real. But in order to qualify for this examination, the student will have to attend the four courses of lectures upon these subjects, and so will, perhaps, have a difficulty in doing much else during his first six months in the direction of attending lectures, and, should he be referred, will have to produce certificates of further attendance, which will throw him back three or six months, as the case may be.

In regard to this, though no doubt the matter has been considered, the idea occurs that there may be a difficulty in finding a teacher of "dental metallurgy," and still more in finding a place and plant for the practical course.

The final examination remains as before, with the exception that dental mechanics will have been already disposed of. Although a special course of dental histology has been introduced, no separate examination will take place in this, though doubtless more attention will be given to it in the case of each candidate than has heretofore been the practice, some candidates having already been taken on practical histology and others not.

Materia medica does not appear as a separate subject, either in the curriculum or in the examination; in some sense this may be a matter for regret, but it is not desirable to load the curriculum too heavily, and it is to be hoped that the teachers and examiners will take care that the subject, which is one in which the average L.D.S. is weak, will not suffer it to drop out of sight.

Upon the whole, the new regulations mark a decided advance in the requirements of the College and in the stringency of its examination. The English College of Surgeons has always been a pioneer in such matters, and its licentiateship in dental surgery has for a long time had the reputation of being more difficult to obtain than that of the other licensing bodies.

It is noteworthy that this advance in its requirements is not made under any outside pressure. Although the dental examinations have now all been inspected and reported upon, the reports have not as yet either been made public or dealt with by the General Medical Council, although it is well known that the percentage of rejections at the English College is already much higher than at any other licensing board. The English College seems determined to be in the van and to lead in the matter, and though for a time the result may, perhaps, be to drive some candidates elsewhere for their diploma, yet in the long run advance in requirements has always been found to be met by improvement in the acquirements of the candidates. A great many points occur for comment, some of which may, perhaps, be dealt with in a future article.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

Southern Counties Branch.

THE Annual General Meeting of this Branch was held at Maidstone on Saturday, June 20. Thanks to the kindness of the Mayor (Councillor J. Barker), the Town Hall was available for the meeting, at which the following gentlemen were present: Dr. J. Walker, President; Mr. J. H. Redman, President-Elect; Alderman Lee Rymer, J.P., Vice-President; Messrs. F. Canton (President-Elect, B.D.A.), W. B. Paterson (Hon. Sec., B.D.A.), J. Smith-Turner; R. H. Woodhouse (President Odontological Society); Stephen Hoole; J. H. Reinhardt; H. J. Kluht; F. H. Van der Pant (London); A. E. Anderson (Hon. Local Sec., Maidstone); M. Henry (Folkstone); F. Ellwood (Redhill);

G. O. Richards (Richmond) ; T. A. Tait (Tenterden) ; Morgan Hughes (Croydon) ; H. B. Gill (Norwood) ; H. W. Van der Pant (Wimbledon) ; F. Dumayne (Lee) ; W. Barton (Eastbourne) ; W. B. Bacon ; W. T. Trollope and F. Bell (Tunbridge Wells) ; Arthur King (Guildford) ; J. Dennant ; W. Harrison ; J. F. Rymer and F. V. Richardson (Brighton) ; F. R. Flintan (Weybridge) ; A. R. Henry (Hastings) ; W. Saunders (Ramsgate), and others.

The minutes having been taken as read, the Hon. Sec. read letters of regret for non-attendance from Messrs. J. H. Whatford, Bowman Macleod, E. G. Betts, D. Hepburn, J. H. Mummery, J. C. Foran, V. Knowles, Herbert Monckton (Town Clerk of Maidstone), and many others.

The HON. TREASURER (Mr. J. H. Redman) read his report, showing a small balance in hand :—In presenting my financial report for the year just ended, I have much pleasure in being able to make a more favourable statement than last year, although not nearly so good as I should like. Last year there was a balance due to me, but that has been cleared off, and I now have a small balance in hand. The Hon. Secretary has a few accounts to lay before you for approval, which will more than absorb this, but still a considerable sum is owing, and if members would only pay their subscriptions we should have no difficulty.

The HON. SECRETARY then read the Council's Report for 1895-6 :—In presenting its ninth Annual Report, the Council is again able to congratulate the Branch on its continued prosperity, and upon the steady increase of its members, who now number ninety-eight, an increase of four during the year.

As usual, four meetings have been held : the Annual at Salisbury, and others at Richmond, Beckenham and Brighton, which were highly satisfactory in every way.

Your Council, acting on the invitation of its President-Elect, and encouraged by the success attending the Salisbury meeting, was induced to again hold its Annual Meeting in a town of an outlying district, so as to bring the objects of the Association before both the public and the medical profession of a county seldom visited.

Your Council regret that they have again found it necessary to recommend an alteration of the Bye-laws, but they think that it should be definitely laid down that the Branch considers it unprofessional for members to advertise their qualifications or hospital appointments.

During the year your Council has reported only one case of alleged infringement to the Executive of the parent Association, with what they trust will be satisfactory results.*

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* The defendant in this case has been fined £5 and costs since the report was read.

The following meetings are proposed for the ensuing year:—October, 1896, at Guildford; January, 1897, at Southampton; April, 1897, at Brighton; and June, 1897, the Annual at Croydon.

In conclusion, your Council again wishes to place on record its hearty thanks to those gentlemen who have so kindly come forward with demonstrations and papers to make their meetings successful.

The reports were adopted on the motion of Mr. J. F. RYMER, seconded by Mr. BACON. On the motion of Mr. REINHARDT, seconded by Mr. BACON, the following alterations of the Bye-laws were unanimously agreed to, viz., that Bye-laws 2 and 3 shall read as follows:—

2. "The Branch shall consist of Members, Honorary Members, and Associates. No one shall be eligible for Membership who is not already a Member of the British Dental Association. Any registered practitioner of good character, who does not conduct his practice by means of the exhibition of dental specimens, appliances, or apparatus in an open shop or in a window, or in a show-case exposed to public inspection, or by means of public advertisements, *circulars*, or notices, describing *his qualifications*, *appointments*, scale of charges, modes of practice, or patented or secret processes, may be elected a Member or an Associate," &c.

3. "Any Member of the British Dental Association *who is not disqualified by Bye-law* 2, may be elected a Member of the Branch by the Council of the Branch on his sending a written application for election to the Hon. Secretary of the Branch. The names of Candidates shall be received for membership at any meeting, and submitted for election at the ensuing meeting. Two black-balls shall invalidate an election."

Dr. WALKER having thanked the officers for their services during the past year vacated the chair in favour of Mr. J. H. Redman.

Ald. RYMER proposed a cordial vote of thanks to Dr. Walker for the services he has so ably rendered the Branch during his term of office.

Mr. DENNANT seconded the resolution, which was carried with acclamation.

Dr. WALKER returned thanks to the members for their good wishes and support, and proposed a vote of thanks to the Council and officers, which was seconded by Mr. G. O. RICHARDS, and carried.

The HON. SECRETARY briefly replied, and the President then delivered his inaugural address.

GENTLEMEN,—I thank you most sincerely for the honour you have done me by electing me your President for the ensuing year. I feel the honour is enhanced from the fact of following in the footsteps of my deservedly-popular predecessor, Dr. Walker. I hope you will extend to me your kind indulgence and ready help, and in return I can promise that I shall study in the future, as I have always done in the past, the best interests of the Association, and our branch in particular.

I fancy I can read in your thoughts, I hope he is not going to bore us with a long address. I will relieve your minds at once; I won't!

Many have asked why we have come to Maidstone to hold our annual meeting. I think it requires a short explanation. As you are all aware our branch covers a very wide area, extending as it does over the counties of Surrey, Sussex, Kent, Hampshire and Wiltshire; and it is only by meetings such as these that we can get into touch with our members and bring new ones into the fold. Last year my friend, Dr. Walker, consented to preside over us, holding our meeting at Salisbury. A number of our members thought it would be as well to go this year to the other extreme of the district; and as we have never held an annual meeting in these parts before, and studying the best interest of the branch, as I thought, I willingly consented to this arrangement. Of course had I studied my own feelings in the matter I should have preferred holding the meeting in Brighton; so many have been held there that other districts may with reason feel slighted, and by going there we do not open up any new ground as we do here.

Maidstone is a most interesting old town; from the relics found it points to the conclusion that it was a place of some importance during the Roman occupation of Britain. Any spare time may be well employed in looking over the town. Among places of interest are the museum, Archbishop's palace, Old Tithe barn, several old churches, &c., &c.

I think it may interest you if I say a few words about Leeds Castle which we shall presently have the pleasure of visiting. It is one of the most interesting objects in this part of Kent. It is difficult to assign the exact date of its foundation. Quite early in the reign of the Conqueror it was by him granted to the family of Crœvecœur of Chartham, and remained in their possession to the latter period of the reign of Henry III., when it passed by exchange to the Leybornes. The importance of its position having been marked by Edward I., it was dutifully resigned to that king by Wm. de Leyborne, and continued to be a royal residence till the reign of Edward VI. Lord Badlesmere, of Leeds, was castella here under Edward II., and, joining the Earl of Lancaster, held the castle against the queen, who had attempted to gain possession of it by a pretended pilgrimage to Canterbury, wherefore this Lord Badlesmere was afterwards hanged at Canterbury. The castle then fell somewhat into decay, and in 1359 William Wykeham, who was appointed chief warder and surveyor, made several additions to the castle at the expense of the crown. It was a favourite residence of Richard II., and his successor, Henry VI., also spent a short time here while the plague raged in London. Henry Guildford, who held this castle of the crown, rebuilt a great part of it at the king's cost. And eventually it was in the possession of

Lord Fairfax, who, dying without issue in 1793, left it to his nephew, the Rev. Denny Martin, D.D. On his death it passed to his brother, General Martin, who by his will left it to F. Wykeham, who took the name of Martin ; and is now possessed by a descendant of the family, Mr. Wykeham Martin, who has very kindly given us permission to view the castle and grounds. I must now turn from lay to professional matters.

Three items of dental politics, affecting the well-being of our profession, are engaging the earnest attention of our members, viz., Dental Advertising, the Unregistered Practitioner and Covering. These are so intimately connected one with the other, and are of such great interest to us all, that I think it will not come amiss if I take them as a text for my address.

It is an admitted fact that dental advertising is carried on at the present time in a more unblushing manner than ever before, and is encouraged and extolled by the general press of the country, and stated to be one of the needs of the present day. How, it is asked, are the public to know of the dentist and his methods of practice if proper notice is not given in the Press ? We can only answer, that his skill will soon speak for him in no uncertain manner, and if he will only have patience to wait, the public will hear of him in good time.

Advertising by merchants and tradesmen may be very advantageous to themselves and the public at large, that is a point with which we have no concern, but to the professional man it is most lowering to his self-respect, and degrades his profession in public esteem. This difference between professional and trade advertising was tersely put by Mr. Tomes in his Newcastle address, he said the merchant advertises his goods, the professional man himself.

Unless a remedy is found for this glaring blot on the honour of the dental profession the result must be disastrous. What is the remedy ? This is a most difficult question, and one not easy to answer. I believe the power is largely in our own hands ; although it is asserted that the present law is not strong enough, I think it has not been stretched to its fullest extent.

Our Association is most strenuously opposed to any form of advertisement, of methods of practice, qualifications or appointments in either the public press or by circular, and we are to be asked this morning to make our bye-laws still more stringent in this respect.

Our medical *confrères* might help us considerably by refusing to meet an advertiser. As we are a part of the medical profession any thing that tends to degrade us is to an extent a reflection on them.

I see that two branches of the British Medical Association, the Oxford and the Dundee districts, have passed resolutions pledging them not to assist, professionally meet in consultation, or administer anæsthetics for members of the dental profession who advertise. This is certainly a step in the right direction, and I sincerely hope that all the other branches will follow so good an example.

We claim for our specialty a high position, and it is our bounden duty not only to maintain this but to use our best endeavours to further enhance it. This position is the result of the incessant labour of our leaders, and it would never have been attained if the commercial spirit engendered by advertising had not been absolutely avoided. The day is not far distant, I hope, when every one who lays claim to being a respectable practitioner will refrain from advertising as he would from poison. Until every qualified man takes this position, we shall never be able to make much headway against the unregistered dentist, who, like the poor, seem to be always with us.

It was thought at the passing of the Dentists Act in 1878, that after the lapse of a generation an unregistered dentist would be unknown, but instead of which they seem to be springing up like mushrooms all around us ; evading the act by all sorts of devices, but in such a way as to make it very difficult to institute proceedings against them. No act that we could get passed would contain a clause prohibiting me practising ; and I much doubt whether Parliament would make the Dentists Act more stringent. We must not forget that in passing the Act of 1878 the protection of the public was the main point, and not the protection of the dental profession.

The unregistered practitioner is a notorious advertiser, and must needs make his advertisement as attractive as possible in order to allure the unwary. It has been suggested that a prosecution might be instituted on their advertisements. This is a point which should not be lost sight of, as in order to make the public understand his position he must imply that he is a dentist or practises dentistry.

Now it has been decided in a court of law that description by implication, as in the Forge case, is illegal, but unless it is certain that a prosecution is going to be successful it is much better to abstain altogether. The best way to get at these men is to educate the public to recognise the fact that the advertiser is *per se* a quack, and if they choose to consult them it is at their own risk.

The question of cover which was taken up with great vigour some time ago does not seem to have had any good result. A circular of warning was sent out by the Medical Council, but no further steps have been taken. The so-called American Dental Institutes, and similar companies, are the greatest offenders, and it certainly seems a great scandal that they are allowed to go on so long with impunity.

Three judges have decided that advertising by a dentist is disgraceful conduct in a professional sense, but the Medical Council must decide upon the advertisement, and no doubt if anyone had his name removed from the register, a series of actions and appeals for re-instatement could be brought against the Council, which, although they might fail, would entail a considerable expense. So that all this matter of prosecution resolves itself into a question of pounds, shillings and pence, and until the profession as a whole are willing to subscribe liberally to a fund for this purpose, they cannot grumble if these abuses are not purged away.

It is not fair to throw the whole burden on the British Dental Association, which numbers only 910 out of a total of 4908 dentists on the register.

I thank you for the kind attention you have given me, and hope you may all have a very pleasant time in Maidstone.

Dr. WALKER, at the close of the address, proposed a hearty vote of thanks to Mr. Redman, which was carried amidst applause.

Mr. HOOLE proposed the following officers for the year :—President-elect, Mr. Morgan Hughes ; Vice-Presidents, Dr. Walker and Ald. Lee Rymer, J.P. ; Hon. Treasurer, Ald. Lee Rymer, J.P. ; Hon. Secretary, Mr. F. V. Richardson. These were seconded by Mr. BACON, and elected. Messrs. J. F. Rymer, J. H. Whatford, F. H. Ellwood, and F. Bell were elected by ballot on the Council for three years.

Mr. BEADNELL GILL read a paper " On the Advisability of Branches undertaking their own Prosecutions." *

In the discussion which followed, Mr. PATERSON (Hon. Sec., B.D.A.) said that he accepted the invitation extended by the President, and he would, as shortly as he could, offer a few criticisms on the subject-matter of the paper before them. In the first place, he desired to thank the author of the paper for putting the pros. and cons. of a somewhat knotty question so interestingly before them. Mr. Gill commenced his paper by saying that there was no bye-law of the Association in existence which prevented a branch from taking up a case of prosecution under the Dentists Act. With that statement he, Mr. Paterson, agreed in the abstract. A branch, or an individual member, or any body could institute legal proceedings under the Dentists Act ; but that was not all ; and Mr. Gill had referred to what remained at the end of his paper, under the head of the financial aspect of the question. There the important question arose, viz., from whence were the funds for prosecutions to come ? As he followed the paper, a branch was not only to prosecute, but to prosecute at the expense of the British Dental Association as a whole. Now if this were so, he ventured to point out that there was a bye-law which most effectively prevented such action. He referred to Bye-law 32, which stated that " each branch or sub-branch shall pay its own expenses ; and no branch or sub-branch shall be deemed for any purpose the agent of the Association, or have power to incur any obligation in its behalf." Groups of dentists in different parts of the country, some with the cognisance of their branches, and others not, had instituted legal proceedings, and were at this moment engaged in doing so against

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* Published amongst the Original Communications.

offenders. He had, as hon. secretary of the British Dental Association, been pleased to advise, when called upon, in such cases, and to utilise the services of the Association's lawyers on points of law as occasion arose. But the funds for these prosecutions were paid by the dentists themselves. Whether it would be to the advantage of the whole Association for a branch to take independent action in legal matters was questionable. He could only say that he thought in the long run it would not. However, he would not dwell upon that point, as there was no motion before the meeting, but would proceed to the next subject in the paper—the classification of offenders. In the first category were the registered dentists, who had registered under false declarations; and Mr. Gill suggested that these formed the best field of operations for a branch. With that he, the speaker, entirely disagreed. No more difficult set of cases could be found for dealing with than those of that group, and inasmuch as the Medical Council formed the judicial court, it would be in the highest degree unwise to entrust such work to a branch. The Medical Council recognised the British Dental Association as a medium of communication between the dental profession and itself, but it recognised the Association as a whole, and not as a number of units or Branches. It would show disunion in our Association for a Branch to so act. Furthermore, the difficulties and expenses of working up such cases at a distance from the judicial centre in London would be much increased where a branch was concerned. This group of cases, too, was by no means as large as might be imagined, and from the fact that the Medical Council had closed the door to further registration of dentists, except on the production of recognised diplomas, it was a dwindling proportion.

Doubtless there were men on the Dentists Register who had got there by making false declarations. It had been said of falsehood, that like the adjective, it admitted of three degrees of comparison, there were "lies, gross lies, and affidavits."

Still, as the affidavits of these men had been accepted by the Medical Council, very clear evidence and strong proofs to the contrary would be necessary, and were, as a matter of fact, always required from plaintiffs in any case presented.

In the second category, Mr. Gill placed the non-registered persons, and he sub-divided them into

(*a*) Non-registered good class men, and
(*b*) ,, ,, bad ,, ,,

Mr. Gill appeared, to him, rather to hold a brief for the non-registered good class men, but it was difficult to appreciate any argument in favour of setting them, as a class, apart from the unregistered in general. A non-registered person practising as a dentist, and using the title of dentist, must, in the interests of the public, be thoroughly exposed for what he is. The only pity was that the public prosecutor did not fulfil his obligations in that respect and so afford the public the protection they now in great measure lacked.

The case of Priestley, of Bradford, had been quoted at length to illustrate the difficulties presented under the second sub-class, or the bad class. If the case had not resulted in the infliction of a severe punishment, it was owing to the sympathies of a British jury, in view of such a serious indictment as manslaughter. It would nevertheless serve as a warning, and such a result cannot be counted on as likely to ensue in any future case.

The author did not propose that the branch should deal with non-registered persons of the bad class. The branch, however, could give the Executive of the Association very valuable information always, and in that way served best towards successful action.

The question of advertising dentists has been alluded to, but on that question great care would need to be exercised. The matter bristled with difficulties, as the Representative Board had realised, in its deliberation on the point, quite recently. It was eminently a subject for the whole Association, and not for a branch.

Cases of "covering," the author considers, might be taken up by either the Association or the branch. In such cases the Medical Council is sole arbiter, and what was said of cases of false registration here again applies. The British Dental Association must not present the spectacle of a house divided against itself.

I gathered that it was proposed to allow the branch to offer assistance to members of the lay public who brought forward cases of alleged "swindling" practices on the part of outside dentists. If I am correct in this conclusion (I hope I am not) one might expect to see a branch inundated with applications, and ruined by the expenses involved in their proper consideration. Certainly Bye-law 32 would have to be enforced to the full if such a course of proceedings were in serious contemplation, or the British Dental Association might find its credit lost.

Whilst on the financial part of the paper, I might say that local Dental Defence Unions have been talked of. Such Unions might supplement the higher work of the British Dental Association, much as the Medical Defence Union does that of the British Medical Association, although in this matter, we, of the British Dental Association, are in advance of the Medical Association, for we combine to some extent the functions of a Defence Union with our other more important objects, which they do not.

To sum up the remainder of the objects and conclusions of Mr. Gill's paper, it seems to me that they resolve themselves into this: Can the Executive of the British Dental Association as a whole, carry out prosecutions under the Dentists Act with more economy and expedition than a branch? To this I reply, that as compared with the plan contained in the author's paper, they are much more likely to.

I do not say that more expedition could not be arrived at, possibly it could. Though I doubt whether much would be gained on economical grounds. An Executive of experience is certain to save in law expenses what a new and inexperienced Executive, *e.g.*, a branch conducting prosecutions, must cost in learning its business.

In conclusion, I would make a suggestion, which I think might help to expedite prosecution business. At present, the Business Committee, which consists of members drawn from all parts of the country, controls and directs prosecutions. As its Hon. Secretary I cannot always conscientiously call such a Committee together to consider, at short notice, a solitary case of alleged infringement of the Dentists Act. I have, in justice to the members of the Committee, to submit a full agenda of business, and not call them together oftener than is absolutely necessary. Consequently cases have to wait their turn oftentimes for periods of varying length. Now if an inner Committee of the Business Committee were formed, to consist of London men, matters might be accelerated in this respect. The Committee might be called the Penal Cases' Committee; and one further suggestion I would make, and I apologise for mentioning it because it refers to myself, inasmuch as it would tend to lighten my various duties as Hon. Secretary considerably. I think the Committee should have a Secretary of its own.

I have no further criticisms to offer, and I trust Mr. Gill will accept those already given in the spirit in which they are intended, viz., in the best interests of the Association which both of us have at heart.

Mr. SMITH-TURNER and Mr. DENNANT also spoke, when on the motion of the PRESIDENT, who thanked Mr. Gill on behalf of the members for his paper, the discussion was adjourned till the meeting at Guildford in October next.

A vote of thanks having been given to the Chairman, the members adjourned to the Mitre Hotel, where the President hospitably entertained them to luncheon, when he was supported by Councillor Barker (Mayor of Maidstone), the Rev. Canon Dyke (Vicar of Maidstone), Dr. Hoar, Dr. Boyce, J.P., A. H. B. Hallows, Esq., Dr. Meredith, Dr. Plomley, and other medical gentlemen in Maidstone.

The collection in aid of the Benevolent Fund amounted to £6 2s.

Between forty and fifty gentlemen accepted the kind invitation of the President, and, after the luncheon, drove with him to Leeds Castle, which was very much admired.

Appointment.

WILLIAM RUSHTON, L.D.S.Eng., to be Dental Surgeon to the National Dental Hospital.

Eastern Counties Branch.

The Annual Meeting of the Eastern Counties Branch was held at the Great White Horse Hotel, Ipswich, on Saturday, June 27, the President, Mr. R. P. Lennox (Cambridge), occupying the chair. There were also present: Messrs. W. A. Rhodes (President-elect), G. Cunningham, A. Jones (Cambridge); Alex. Kirby (Bedford); J. Fenn-Cole (Ipswich); A. S. Jones (Stamford); R. Wentworth White (Norwich); and A. Hopewell-Smith (Boston), Hon. Secretary. Letters regretting inability to attend were received from Messrs. H. F. White and W. H. Hope.

Hon. Secretary's Report.

The Hon. Secretary's Report commenced with an acknowledgment of the compliment paid to him in electing him as secretary in succession to Mr. Rhodes, who had done such excellent service for the Branch during twelve years of office. It was through his exertions that the size of the Branch had increased from eighteen original members to more than twice that number. During the past year there had been one resignation, and the Council now recommended seven new candidates for election; this brought the total membership up to forty-six. They could also congratulate themselves on the fact that Mr. F. Canton, an honorary member of the Branch, had been chosen President of the parent Association for 1896-7. The work of the Branch during the last twelve months had been very satisfactory. The Grimsby meeting was well attended and a great success, thanks to Messrs. Husbands, Spurr, and Howkins, and it was believed that the recent prosecutions in that town, followed closely as they were by the annual meeting of the Eastern Counties Branch, had produced a marked effect on the elevation of the profession in Grimsby and the neighbourhood. With regard to the important proposal on the part of the Representative Board to alter Bye-laws 15 and 18, the Council, without specially meeting, adhered to the opinion expressed in 1892 on the subject, viz.: " That this Branch decides to support the proposition before the Representative Board, viz., that Branches be given power to elect, not merely nominate their representatives as at present." In conclusion, he urged all members present to become regular subscribers to the Benevolent Fund of the Association, and spoke shortly of its great claims. The report was adopted on the motion of Mr. Cunningham, after it had been seconded by Mr. Fenn-Cole.

The Hon. Treasurer's report, in the absence of Mr. White, was read; the accounts were subsequently audited and passed, showing a good balance in hand. Discussing the question of the place of meeting for 1897, Mr. Cunningham moved that the next meeting be held in Norwich. This was carried.

Mr. White, who proposed five of the seven new members, then intimated that Mr. Bosworth Harcourt (Norwich), was willing to be president-elect. He moved accordingly, and the proposition was carried unanimously.

It was informally stated that the parent Association were considering the desirability of holding their next meeting at Norwich, and it was suggested that the two meetings might be held on the same day. The actual date, however, was left to the Council to decide. Vacancies in the Council were filled by the election of Messrs. R. P. Lennox, W. H. Hope, A. Jones, and W. J. Fisk. After some formal business had been transacted, Mr. Lennox vacated the chair, having previously acknowledged the great kindness and sympathy shown him in his unfortunate breakdown of health last year.

Mr. RHODES then took the chair on assuming the office of the President, and delivered his inaugural address, which he devoted chiefly to the recital of the history of the Branch.

PRESIDENT'S INAUGURAL ADDRESS.

GENTLEMEN,—In commencing my address I would first desire to thank you, my brethren of this Branch, for having done me the honour of electing me your president. A great difficulty I had to confront on thus being the recipient of your favour was to choose a subject for my inaugural address. Gentlemen, this difficulty which we often find so plaintively alluded to in our journals is a very real one, for we cannot all be original workers in the field of research, and again it is not given to every one of us to be able to "gild refined gold," and so present well worn topics as to render them interesting even to such an indulgent audience as I trust I have before me now.

It occurred to me, however, that as we to-day are not going to devote ourselves to the discussion and practice of technical subjects of our profession, it would not be out of place if I devoted my address to the consideration of the past history of this Association since its foundation in 1881, and, inasmuch as the circumstances under which I come to occupy this chair make it not altogether unfitting that my address should partake somewhat of the valedictory as well as of an inaugural character.

On October 5, 1881, a meeting was called (the prime mover in the matter being the late Mr. Richard White) for the purpose of considering the desirability of forming a Branch of the British Dental Association in the Eastern Counties. For some reason, a separate organisation called the "Eastern Counties Dental Association," was formed, but it states in the minutes of the meeting, "this Association proposes at some future time to connect itself with the British Dental Association as its Eastern Counties Branch." The proposed affiliation came about in 1883. In 1884, for reasons which I have never been able to fathom, I was elected your hon. secretary. I trust I may be pardoned for thus bringing forward what is now ancient history, but we have now among us many members, and I am glad to say, more coming in, who had not even commenced their dental education at the time of which I now speak. This may, therefore, be a fitting opportunity of letting them know something of our early struggles as a Society, and also of informing them of how much work has been done and who did it, the full benefit of which they seem likely to inherit. "The Eastern Counties Dental Association" began its career with seventeen members, and when I was elected your honorary secretary there were twenty-two members.

It was not a very large body to work with. It could certainly boast that its district extended from the Humber to the Thames, but there was the difficulty combined with the fact that the Eastern Counties are more sparsely favoured with large towns than any other part of England. Where there are no towns there are no dentists, and thus it has come about that we have remained the smallest branch, although perhaps not covering the smallest area, of any branch of the British Dental Association.

In those days, if a hon. sec. was in trouble, owing to difficulties in whipping up a sufficient number of mumbers to obtain a successful meeting, the rule was to appeal to certain members of the Executive residing in London to come to their aid. That appeal was always generously answered and, lest there should be any danger of these things being forgotten it behoves me to remind you of how much we are indebted, in a greater degree perhaps, than to any other persons, to Mr. James Smith Turner, Mr. F. Canton, and Mr. Morton Smale, who successively held the post of hon. sec. of the British Dental Association. Our own Mr. Cunningham may worthily be bracketed with the foregoing, for he is the only member who has attended all our meetings since 1881, and every one knows of the help in many ways he has rendered other branches. Indeed, I am lost in wonder when I think of all the meetings these gentlemen attended, at so much sacrifice of time and money to themselves, their only reward the good of the cause.

It is hardly necessary for me to recount to you all the meetings we have held, but the meeting of the British Dental Association, held at Cambridge in 1885 is still remembered and spoken of by many members who attended. Then there was the Lowestoft meeting, memorable because of the address Mr. Amos Kirby gave us, the Cambridge meeting of 1892, when Sir James Crichton Browne delivered his address on "Tooth Culture," and the Watford meeting held in conjunction with the West Herts Medical Association.

We cannot complain either of lack of variety in our proceedings or demonstrations. We have had Implantation, Mr. Lennox's Fusible Metal, different systems of Crowning, Bridge Work, Nitrous Oxide and Oxygen, experiments with low fusing gum bodies, and last but not least, the lantern displays organised by Mr. Hopewell Smith.

The lantern demonstrations have, I consider, been a special feature of our later gatherings, and the slides shown under the microscope at Watford were of remarkable interest and mounted with extraordinary skill.

There are many members of the British Dental Association who are not so much interested in the subjects I have briefly remarked upon, as they are in the question, "What has the British Dental Association done for the dental profession, in forwarding and protecting its interests?" Many of these members, also, when considering the success, or otherwise, as may be their opinion, of the British Dental Association, are apt to estimate the measure of what it has accomplished by the number of successful prosecutions it has conducted, or what results it has obtained, through the medium of the law courts, in obtaining new readings of the Dentists Act, favourable to the dental profession. Of course there will be differences of opinion as to whether the British Dental Association has or has not done all that it might in forwarding those interests I have spoken of. But there is, I venture to point out, quite another sphere of the Association's work, and one that is very apt to be lost sight of.

No one who has regularly attended the meetings since the formation of the British Dental Association, can but be impressed by the great changes that have taken place in the profession since that time. It is only necessary to reflect how comparatively few men were available then to demonstrate the higher developments of operative dentistry, and to contrast with that state of affairs the number of operators possessed of the very highest skill, which we now can claim, to realise what a change has come about. And I have no hesitation in stating that the British Dental Association is entitled to claim practically the whole credit of bringing about this improved standard of professional knowledge and skill. Its work, too, in bringing together most of the best men of our profession and in stimulating many of them to useful discoveries and inventions, of which we have had conspicuous examples in our own Branch, has been another important achievement, and one which has been of incalculable benefit to those who seek our aid, as well as of great convenience to the operator. I think I have said enough to justify our existence, and to show that it is worth while being a member of the British Dental Association.

To those people who do think that the Association has not justified their expectations and has not done all that it might have done, and who on that account refuse to join us, I ask the question, Is much likely to be accomplished by their policy of "sitting on the wall"? If they have views to propound let them join us, and let us hear what they are, and if they are sound they are sure to prevail sooner or later.

It is not surprising that a feeling of great indignation is growing, both in the medical and dental professions, that the present state of the law fails to prevent such occurrences as the one which recently took place at Idle, and other glaring instances of quackery.

The opportunity for obtaining some amendment of the laws against quackery may present itself, possibly sooner than we anticipate, and it behoves us to make efforts to increase our membership, so that when the occasion presents itself for the Association to use its influence towards so desirable an end, the weight of numbers will make itself felt.

Referring to this question of augmenting the membership of the British Dental Association, I may say that I do not believe in the policy of masterly inactivity, simply sitting and waiting for people to come in. Every member should be a recruiting officer, and not look to the Hon. Secretary of his branch to do all the hunting up of new members.

The people we need to look after are those who are going to join us, but somehow or other are always putting the matter off, and also the men who do not join because they are not asked to do so. We have had a very good example recently at Norwich of what local influence can do in obtaining new members, and I would ask each one in his own district to assist our new broom, and it is a good broom, to sweep into our Branch as many eligible candidates as he can. I would also point out that newly qualified men are continually settling in our midst, and these should have pointed out to them the many advantages of joining us early.

And now, gentlemen, the twelve years I have had the privilege of serving you have come to an end. Scarcely a moment ago, and I was your Honorary Secretary, and now, in obedience to your desire that I should go "up one," here I am in the Presidential chair.

It has not always been a far cry from the Secretarial to the Presidential chair of our Branches, but I do not know of any one who has had quite so short a respite from the cares of office as this. You have been very indulgent to me, and always lenient to my many failings. I should like, before I sit down, to thank all those who have so willingly rendered me aid on many occasions, and I would particularly mention my friend Mr. Cunningham, and I am conscious that I must frequently have received credit for work which he in reality has done. The time that I have been a member of this Association has been to me a period full of profitable friendly intercourse with my professional brethren, and I hope that I have succeeded in making many friends among them, and enemies I sincerely do trust, not one.

A vote of thanks was given to the retiring president, and also Mr. Rhodes for his valuable services to the Branch in his twelve years' tenure of office of Hon. Secretary. The members afterwards accepted the president's invitation to dinner at the White Horse, and in the evening took train to Harwich and crossed over to Amsterdam, to attend a joint meeting with the two Holland Dental Societies. Several members and friends joined the members at Harwich.

The Dutch meeting began in Holland on June 28, at 11, by a reception at the Hotel Krasnapolsky of the members of the Eastern Counties Branch. They were accorded a hearty welcome by Messrs. J. E. Grevers, T. Dentz, Hamer, Witthaus, Picnot, Schäfer, and others. Luncheon was provided at the Zoological Gardens, and was accompanied by a concert given by the Band of the 7th Infantry Regiment. A drive through the city, viewing the important places of interest—the Exhibition Buildings, the Palace, the Vondel Park, &c.—followed, and in the evening a dinner, Dr. Dentz of Utrecht, being in the chair. Dr. Grevers (Amsterdam), occupied the vice-chair. Among the speakers were Dr. Dentz, Grevers, Witthaus, Miss Mertens (Holland), Dr. Roughton (London), Messrs. Cunningham and Rhodes (Cambridge), Fisk (Watford), Kirby (Bedford), &c.

The meeting was continued on June 29, in the chemical theatre of the University of Amsterdam, Dr. Grevers occupying the chair. Mr. R. P. Lennox read an eminently practical paper on "Some Methods in Mechanical Dentistry;" Dr. Witthaus' contribution on "Left Cutting Burs" combined both science and practice, and was well illustrated by means of diagrams. Mr. Cunningham next reviewed the work done at the Institute of Dental Technology, and spoke of its aims and objects as a school of mechanical dentistry. After the adjournment for lunch, Mr. Rhodes being in the chair, Mr. Hopewell Smith gave a paper, illustrated with lantern slides, on "The Patho-histology of the Dental Tissues." Dr. Grevers followed with a paper on "Prothèse Immédiate," throwing on the screen many interesting photographs of cases which illustrated his remarks. Dr. Dentz then read for Dr. Van der Hoeven, who was unable to attend through illness, a paper on "Premature Extraction of Temporary Canines." After the dinner, which took place at the Amstel Hotel, there was a delightful steamboat excursion, the Dutch societies being again the hosts of the British visitors.

At the Dental Institute of the Utrecht University, the concluding meeting was held next day, Dr. Dentz in the chair. Drs. Schäfer and Hamer gave very interesting demonstrations on Frank's method of immediate regulation and the galvano-plastic plate for dentures.

This brought the business of the combined meetings to a close, and after the customary votes of thanks to the readers of papers and demonstrators, and renewal of great thanks on the part of the English, there terminated the most interesting and delightful dental meetings ever held in connection with the Eastern Counties Branch. The few days spent in Holland, associated as they were with the members of the Dutch dental societies, whose hospitality knew no bounds, will long be remembered and chronicled as "red-letter" days by those members and friends who were fortunate enough to be present at the meeting.

Central Counties Branch.

THE Twelfth Annual Meeting of the Central Counties Branch of the British Dental Association was held on Saturday, July 11, at Oxford.

The Council Meeting was held in one of the Lecture Rooms of the University Museum (kindly placed at the disposal of the Branch by the authorities), Mr. JOHN HUMPHREYS in the chair.

Letters of apology were read from Messrs. Harding, Coleridge-Roberts, Roff King, and Helyar for inability to attend. Mr. E. A. Bevers (Oxford) was then elected to the vacancy left on the Council, according to a resolution of last year.

The usual matters of business were then discussed, and gentlemen were selected whose names were to be recommended by the Council to fill the several vacancies, and the proceedings terminated.

The General Meeting of the members of the Branch then took place, and amongst those present were :—Messrs. John Humphreys (Birmingham) ; E. A. Bevers (Oxford) ; Vernon Knowles (Reading) ; E. A. Vickery (Coventry) ; J. T. Craig (Leicester) ; Breward Neale, Richards, Parrott, Huxley, Howard, Mountford, Steynor (Birmingham) ; H. R. F. Brooks (Banbury) ; R. Owen (Wolverhampton) ; Martin Sherwood (Oxford) ; Wm. Geekie (Oxford) ; J. L. Robertson (Cheltenham) ; F. W. Hands (Cheltenham) ; J. Hilditch-Matthews (Birmingham) ; A. E. Donagan (Birmingham) ; and A. T. Hilder (Birmingham).

Letters of apology for non-attendance were then read from several members, and the Hon. Sec. (Mr. Donagan) read the minutes of last meeting, which were duly signed.

Mr. Hilditch-Matthews, L.D.S.Eng., was then elected a member.

The HON. TREASURER (Mr. J. Mountford) then read his Report, which showed a satisfactory state of the finances of the Branch.

The HON. SECRETARY'S report was next given, showing an increase of five members during the past year, and drawing attention to the fact that a resolution was to be submitted to the members of the Association at its Annual Meeting, conferring upon its Branches the power of electing a member for the Representative Board instead of nominating only. Both reports were unanimously adopted, and votes of thanks passed to the Hon. Treasurer and Hon. Secretary respectively.

The following officers were then elected for the ensuing year :—President, Mr. F. E. Huxley ; President-elect, Mr. H. R. F. Brooks ; Vice-presidents, Messrs. F. W. Richards and John Humphreys ; Council, Messrs. Vickery and Roff King ; Hon. Treasurer, Mr. J. Mountford (re-elected) ; Hon. Secretary, Mr. A. T. Hilder ; Hon. Auditors, Messrs. Malcolm Knott and J. D. Whittles. It was with much regret that the resignation of Mr. Donagan as Honorary

Secretary was received, and as Mr. Donagan felt that he could not re-consider his decision, owing to his being unable to give sufficient time to serve well the interests of the branch, it was accepted.

The place of the next Annual Meeting was, after some discussion, selected, on the motion of Mr. Breward Neale, seconded by Mr. Craig, to be Stratford-on-Avon, an amendment by Mr. F. W. Richards, seconded by Mr. Donagan, to the effect that it should be left to the Council to decide after deliberation, being lost.

Mr. John Humphreys then read his valedictory address.*

The succeeding President, Mr. Frank Huxley, was then inducted to the official chair, and gave his inaugural address as follows :—

GENTLEMEN,—I am deeply sensible of the honour you have conferred upon me in appointing me to preside at the first meeting of our Association in this most ancient and celebrated seat of learning. It is not easy to import much variety or novelty into a presidential address, nine of which are annually delivered to our Association and its branches. They are, however, occasions when we can legitimately lay our claims as a profession before the public, and this may serve as some excuse for again dwelling on the oft-trodden ground which must have become so familiar to our members. Compared to the venerable institutions which surround us, where learning has been for centuries pursued apart from the stress of commercial interests, our profession may truly be regarded as of mere mushroom growth. Unlike that succulent fungus, however, it has already taken deep root, and become an indispensable necessity to the community. Even at the beginning of the present century a quite respectable amount of literature relating to the teeth existed. During the last fifty years, however, the advance of the speciality has been so rapid and remarkable that we need only for the moment give our attention to that period.

About the year 1840, Harris, of Baltimore, published the first work of importance, "The Principles and Practice of Dentistry." Then came many valuable contributions from such men as Owen, Nasmyth, and Tomes, the last mentioned eclipsing all previous efforts by the publication in 1859 of his "System of Dental Surgery." It was the result of the personal research and experience of the late Sir John Tomes himself, and also embodied the work of other investigators after careful revision by the author. With valuable additions by Mr. Charles Tomes in later editions, this work has continued for many years to be the leading text book on the subject. More recently many valuable contributions to our literature have been made both in this country and abroad, such as Salter's "Dental Surgery and Pathology," Weal's "Pathology," Kingey's "Oral Deformities," Mr. Charles Tomes' "Dental Anatomy"; and of narrower scope by Magitot,

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* The report of this has not been received.

Leber and Rottenstein, Sewill, Miller, and many more. To anyone interested in this subject, I cannot do better than recommend an Appendix to the Transactions of the Annual Meeting of the British Dental Association of 1882, compiled by Mr. Oakley Coles.

In 1856, the Odontological Society of Great Britain was founded and two years later the Dental Hospital of London was opened. The Odontological Society soon attracted the leading specialists, few in number, but including several well-known names, which have continued to the present time to appear prominently in all important matters relating to the profession. Most of the recent additions to our books will be found to consist of matter read and discussed by this Society and appearing in its valuable transactions.

Your president last year pointed out how all the allied sciences had been laid under contribution for the advancement of dentistry. The same may be said of the arts and mechanical inventions, the latter influence making a most marked impression during the decade from 1860 to 1870. The introduction of vulcanite, and improvements in the manufacture of mineral teeth, gave an immense impetus to the prosthetic department of our practice, and artificial teeth were at once rid of many of their objections, and placed within reach of vast numbers of persons who could not previously have afforded them. A wave of inventive genius largely evident in America, now came into play. The burring engine of Morrison and White, the rubber dam invented by Dr. Barnum, the saliva ejector by Fisk, and the electric mallet by Bonwill followed in rapid succession. The possibilities opened up in the use of cohesive gold by these inventions signified one of the greatest strides ever made in operative dentistry. Fascinated by these wonderful appliances, is it to be wondered at that operators were tempted to go to extremes in the elaboration of conservative treatment, sometimes without sufficient regard to their own health or the endurance of their patients? Other workers were, however, in the field, trying to attain the same ends by more facile means. Prominent among these was Dr. Flagg, who did so much to advance the claims of plastics. Under this influence fresh attention was given to the manufacture and use of this class of materials.

I am afraid these details will prove tedious, but before leaving them I would like to ask you for one moment to consider the immense value to us of such a comparatively simple substance as zinc phosphate cement. Referring only to one of its many uses, that of setting crowns and caps — operations that would otherwise be most tedious and difficult, if not impossible—can, thanks to this material, be accomplished with the greatest ease and rapidity. But during the last thirty years a much broader influence has been brought to bear in the ranks of our profession—the influence of education. We used to hear a great deal of talk about educating our patients, and indeed the attitude of the public toward us has often been one of mistrust, arising from ignorance and aggravated by the pretensions of lying impostors. The true remedy, however, lay in educating ourselves and being able to assure the public that only competent men were admitted and allowed to practise in this profession. It was mainly with this object that the British Dental Association was formed. Its history and objects have been so often the theme of able addresses from presidential chairs that I need not dwell on them to-day. During the last fifteen years many things have been accomplished which then seemed only dreams in the far-off distance. In place of one school of instruction in Great Britain there are now at least eight, while diplomas in dentistry are now granted by most of the medical licensing bodies. The curriculum and examinations have moreover undergone material changes for the better. By means of our journals and frequent meetings practitioners may easily keep themselves well informed on all new discoveries and inventions, a knowledge of which in former years would probably only be conveyed to them by one of those obliging gentlemen who pay us periodical visits and convey materials and information to all corners of the earth with strict impartiality.

The need of a liberal education becomes more evident as new scientific discoveries multiply, so that we may understand them and avail ourselves of that which is useful to us. Take for instance the recently revealed property of the x rays; within the last few weeks an application of this had been made which promises to be not only of great interest but of practical value to the dentist. The situation in the jaw of misplaced roots or unerupted teeth can be detected, and we may even hope at last to set at rest the much-vexed question as to whether the roots of teeth can be bodily moved in regulating, or whether the apical portion remains stationary. What are we doing in the way of preventive treatment? Here our most active work can be done among children. Valuable results are already visible where institutions, having children under their care, have introduced systematic inspection and dental treatment. The hygiene of the mouth can be insisted on, for we know from bacteriology what a potent effect local causes exert on the destruction of the teeth. There are other matters which can only be influenced by legislative or political measures which are outside our scope. We should, however, not fail in our endeavour to discover and point out the true causes and possible remedies for the ever-increasing dental diseases.

The adulteration or interference with articles of food demands urgent attention. Cases have occurred, for instance, where the preservation of milk by boracic acid or "Glacialine" has had the most disastrous effects on the dentition of children by producing a veritable scurvy. Bread as supplied by bakers has often been subjected to treatment which robs it of its most valuable nutritious qualities, and makes it insipid and unappetising. Mr. Blandy once remarked that we had to aim, not at rearing healthy teeth, but healthy children. An increase of dental decay and degeneration seems to accompany modern civilisation. In this country the gradual disappearance of the thriving agriculturist with his robust family and the crowding into towns seemed to be an important weakening factor. At the same time we are sending to our colonies thousands of the finest specimens of our men, assisted emigration only being granted to those who can be medically passed as sound and healthy. On the other hand the more free admixture of the nations in marriage, a healthier ideal life, the golf link and the bicycle, are exerting their counteracting influence. Still, Mr. Sewill in his able summary on the causes of dental decay, speaks hopefully for the future, believing that the forces of evolution will infallibly assert themselves and assure the survival of the physically fittest.

Then followed a paper with demonstrations by Messrs. Birkbeck Hill and J. Hardie McLean, of Oxford, which proved of exceeding interest.*

Some highly interesting specimens of interest were brought as casual communications by Mr. E. A. Bevers, and much regret was expressed that the time was not sufficiently elastic to permit of justice being given to them. The members then partook of luncheon, by the hospitality of the President (Mr. Huxley), to whose kindness they were also indebted for a highly enjoyable trip down the river in the afternoon on board a steam launch.

The Annual Dinner took place in the evening at the "Roebuck," and about thirty members and friends assembled for the occasion.

Western Counties Branch.

A Council Meeting of the Western Branch was held at the University College, Bristol, July 24, 1896, at 9.30 a.m., the President, Mr. J. J. W. Sanders in the Chair. Also present—Messrs. T. Taylor Genge, President-elect ; Apperly, Browne-Mason, E. Brown, Dudley, Gartrell, Harding, Helyar, Hunt, Goodman, Laws, McAdam, H. B. Mason, Nicholls, Oliver, Rogers, Robertson, Thomson, Yates, and Goard.

Letters of apology for non-attendance were received from Messrs. Kendrick and Morris.

The minutes of the last meeting were read and confirmed.

Messrs. Peaty, Holme and H. L. Hayman were elected members of the Association and Branch.

W. Spray was elected a member of the Branch.

The Hon. Treasurer then read his report.

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* To be published in a future issue.

The report of the Council was read and adopted.

It was resolved to hold the next Council Meeting at Minehead, on the second Saturday in October next.

The new Bye-law was considered before presenting it at the Annual Meeting of members.

The Annual General Meeting was held at 10.30, when Mr. J. J. H. Sanders presided, and the members present included Messrs. T. Taylor Genge, President-elect; J. T. Browne-Mason, R. Rogers, Harding, McAdam, Helyar, H. B. Mason, E. Goodman, Yates, Brown, Robertson, Dudley, Thomson, J. C. Oliver, E. Apperly, Gartrell, J. P. Oliver, Ritchie, Hatton, Mundell, Gill-Williams, Gay, W. H. Goodman, Quinlan, Fernald, Royal, Baudry-Mills, Petherbridge, Peaty, Nicholls, Whittell, Wallis, Prideaux, Keys, Little, C. A. Hayman, S. J. Hayman, T. A. Goard.

The minutes of the last meeting (held at Barnstaple) having been read and confirmed, the President read letters regretting inability to attend from Messrs. Bonnar, Macleod, Canton, Paterson, Harrison, Renshaw, Kendrick, Morris, Goodridge, and Graham White.

Mr. J. T. BROWNE-MASON, Hon. Treasurer, presented the balance sheet, which showed that the year began with a balance in hand of £10 18s. 1½d.; subscriptions amounted to £19 5s., and the British Dental Association had granted £2 2s. towards reporting the Annual Meeting, the total on the receipts side being £32 5s. 1½d. The payments were: Barnstaple Meeting, £4 3s. 7d.; Reporting, £3 3s.; extra printing on account of postponement, 13s.; Bath, Tavistock and Wells Council Meeting, £1 6s.; Townsend, printing and stationery, £4 6s.; Treasurer, stamps, 17s. 7½d.; Secretary's travelling expenses and petty cash, £7 12s. 8d.; Secretary, stamps, £2 3s. 3d.; balance in Treasurer's hands, £8 0s. 5d. The Treasurer said the balance sheet called for little comment, except that it showed that for the first time the expenses had exceeded the income. This was accounted for by the Secretary having to make five journeys to London on behalf of the Branch, a postponement last year on account of the General Election, and a special Council and Branch Meeting at Bath.

Mr. W. E. Harding and Mr. Hunt were appointed Auditors.

The HON. SECRETARY read the Annual Report as follows:—

SECRETARY'S REPORT.

The Council have much pleasure in submitting their report at the Annual Meeting of members.

Last year the meeting was held at Barnstaple, this was the first time the branch had visited North Devon. There was a good attendance of members who were generously entertained by the President, Mr. J. J. W. Sanders.

After a short valedictory address from the retiring President, Mr.

Kendrick, the in-coming President, gave a most interesting address, dealing largely with the question of dental education and the organisation of dental practitioners.

Mr. THOMSON read an able paper on "The Advisability of Bridge Work," which was followed by a capital discussion.

Demonstrations were given by Messrs. Sanders, Gartrell and Thomson.

In October, an ordinary meeting of the Council was held at Wells. Some cases reported to them of infringement of the Dentists Act, were carefully considered.

In January, a meeting of the Executive Committee was held, at which it was decided to call a special meeting of the Western Branch. The purpose of the meeting to be "to consider and resolve upon the communication received from the Representative Board, respecting the question of alteration of the Bye-laws 15 and 18 of the British Dental Association." The meeting to be held at Bath on February 22, 1896.

On that date a special Council meeting was held at Bath. There was a large muster of Councillors. The communication from the Representative Board was read. After a lengthy discussion the following suggestion was resolved upon: "That each branch shall return three members to the Representative Board, two being *ex-officio*, the President and the Hon. Secretary, and one independent member."

At the special meeting of members, which was poorly attended, the same suggestion was resolved upon, and the Hon. Secretary was directed to send the same to the Hon. Secretary of the British Dental Association.

In May the spring meeting of the Council was held at Tavistock. Other cases of infringement of the Dental Act came before them.

The resignation of Mr. Balkwill was received. The Council instructed the Hon. Secretary to convey to Mr. Balkwill their regret at the step he had felt obliged to take, and to thank him for the long and valuable services he has rendered the branch from its commencement.

During the past year four have resigned; the number now on the list is eighty-two.

The Hon. Treasurer reports that he has in hand a balance of £8 0s. 5d.

The Council propose that the meeting next year be held in Exeter, and nominate Mr. Henry B. Mason, of that city, as President-elect.

The Council suggest that Messrs. W. Helyar and J. Laws be nominated for election to the Representative Board at the Annual meeting of the Association.

On the motion of Colonel ROGERS, seconded by Mr. W. H. GOODMAN, the report was adopted.

The auditors having reported favourably on the accounts, they were adopted on the motion of Mr. QUINLAN, seconded by Mr. J. C. OLIVER.

Messrs. W. Helyar and J. Laws were nominated for election to the Representative Board at the Annual Meeting.

The next business was the consideration of a new Bye-law ; "That a special meeting of the branch may be called at any time by the Executive Committee, not less than fourteen days' notice being given to every member. No business shall be transacted at such meeting which has not been notified in the agenda." The chairman stated that this Bye-law would be known as No. 23.

Mr. HENRY MASON proposed the adoption of the new Bye-law, pointing out that at present there was no provision for the calling of a special meeting.

Mr. OLIVER seconded the resolution, which was agreed to.

The CHAIRMAN, before vacating his position, gave a short valedictory address, in which he said :

GENTLEMEN,—Before vacating this chair in order to give place to my successor in the office of President, I should like, in accordance with custom, to say a few valedictory words.

It was with great diffidence that I entered upon the duties of the Presidency of this Association, but I was supported by the knowledge that I was assured of the hearty co-operation of my fellow-members. My expectations in that direction have been more than realised. Nothing could exceed the kindness which I have met with, and I desire to take this opportunity of publicly thanking the members of the Council, and the indefatigable Hon. Secretary in particular, for the cordiality with which they have co-operated with me during the year, and for the kindliness with which they have sought to make my tenure of office pleasant to me. The experience of the past twelve months has confirmed my views as to the great value of this organisation, which supplies a means for the interchange of opinions and for the comparing of notes, and which, at the same time, safeguards the interests of the profession. In the remarks I made on taking the Presidential chair at Barnstaple a year ago, I expressed a hope that qualified dentists in the West, who had hitherto held aloof from our Association, would soon join us. The Association benefits *all* legitimate practitioners, and it savours of meanness for members of the profession to allow the burden of maintaining an effective organisation to fall upon the shoulders of the few. There have been some additions to the membership since the last annual meeting, but they have fallen far below what might reasonably have been anticipated. However, although some of us may have met with disappointments in attempting to extend the membership, I hope that we shall not relax our efforts, but each continue to exert his influence until the whole of the qualified dental practitioners in the district covered by our Association are included in the membership. In regard to another matter to which I referred last year, some progress has, I am glad to say, been made. There has been some evidence forthcoming of a desire on the part of the central authorities to enforce more stringently the law relating to the practice of unqualified men, and to exercise more vigilance in reference to breaches of the Dental Act. But the executive is still rather limp and hesitating, and I trust that in the coming year further progress will be made, so that the law relating to dentistry will be as rigorously enforced as that bearing on the general medical practice. There is much interesting business before you, gentlemen, and so I will detain you no longer. I will therefore make room for Mr. Genge, with the expression of the hope that his year of office may prove as pleasurable to him as mine has—thanks to the forbearance and the kindness of the members—been to me. I have great pleasure in introducing Mr. Genge, the President-elect.

Mr. DUDLEY proposed a vote of thanks to Mr. Sanders, not only for the able way in which he had filled the presidential chair, but also for the very interesting meeting that they had at Barnstaple. They would always remember Mr. Sanders as one of their most popular presidents, and the Barnstaple meeting would rank as one of the most enjoyable that they had ever had.

Colonel ROGERS seconded, saying Mr. Sanders had thrown himself with right good earnest into the work of the Association.

The motion was carried by acclamation, and in acknowledging it, Mr. Sanders thanked the members for the kindness they had shown him.

Mr. T. TAYLOR GENGE then took the chair amid loud applause. In his Presidential Address he said :—

GENTLEMEN,—In accepting the Presidency of the Western Branch of the British Dental Association, to which you have done me the honour of so unanimously electing me, I assure you that I feel no small amount of diffidence and hesitancy, recollecting, as I do, the many able men who have preceded me. Had I not felt that I could rely upon your indulgence for any shortcomings, and upon the kind assistance of my many friends, I fear I could not have consented to accept this responsible and honourable position. In thanking you, allow me to say that the interests of this Association are very dear to me, and that during my tenure of office you may rely on my doing my best to advance, as far as possible, the objects of this Association, and uphold the dignity of our profession.

This is the eighteenth annual meeting of this branch of the British Dental Association, which was in its infancy when the first meeting was held in Bristol fourteen years ago. The President then, as many of you are probably well aware, was my much-esteemed late friend and colleague, Mr. T. Cooke Parson. Those of you who knew him, can, I am sure, testify to the zeal and ability which marked his occupation of this chair, and will join me in my profound regret that the second meeting of this Association in Bristol finds him not amongst us.

In welcoming you to Bristol, the metropolis of the west, I would remind you that by reason of our colleges, hospitals, &c., we are able to offer special facilities to students of medicine and dentistry, and these advantages, combined with its commercial importance and many social attractions, render it a not altogether undesirable place in which to live. We have a history of which we need not be ashamed, and although perhaps we cannot claim to lead the van in these days of innovation and rapid progress, we are at least abreast of the times in many things. Some of you will probably find interesting an inspection of the electric trams, and installation of electric lighting. I can also recommend a visit to the Spa and hydraulic lift, which were opened when the Medical Association met here a few years ago, and you will there be able to test the medicinal waters which gained Bristol so much celebrity in the last century. Others of you may perhaps find more charm in a walk over our lovely Downs, which are so justly famous for their picturesque beauty.

Having thus briefly drawn your attention to some of the improvements which have taken place in Bristol since our last meeting here I propose shortly to comment upon the progress of our profession and Association during that period. Now, some may be inclined to think that the British Dental Association has not justified the high hopes which were formed of it at its inauguration, and I have even heard some measure of blame apportioned to it because it has not brought about any startling reforms and changes. But those who are inclined to criticise the Association in this way, probably do not recognise the many difficulties which have to be overcome before radical changes can be made in a profession like ours. Viewed from the social aspect alone, however, I think our Association justifies its existence. Man is essentially a social animal, and it would be a great mistake not to utilise this social instinct for the purpose of creating a cordial and friendly feeling amongst the members of our profession. During our meetings we are able to have a general interchange of ideas and opinions, and to communicate our theories and experiences to each other, and compare results of different methods of practice, which must be, and are, I am sure, highly beneficial and well calculated to increase our general knowledge. In concluding my reference to this subject, I would say that I think those who hold aloof from us because we have not done more, are not adopting the wisest mode of procedure; they should rather join us, and do what they can to increase the usefulness of this Association, and consolidate the interests of our profession.

With regard to the progress of the profession, there are perhaps no very startling changes or innovations in treatment to chronicle, but there has been considerable advance in the general equipment and knowledge of dentists, and for these we are chiefly indebted to scientific discovery and research. As our friends the scientists probe year by year more deeply into the secrets of nature, and harness her forces and resources to the car of civilisation, it is the privilege of dentists to utilise and apply the results of their researches. We have reason to be glad, and our patients are doubtless thankful, for the improved means that are now at our disposal for minimising pain. The ideal anæsthetic, which will produce anæsthesia without any risk to the patient, has yet to be discovered, but the admixture of oxygen with nitrous oxide is certainly a step in this direction, and I am sure that none of us who have used this, and observed the much more tranquil breathing and general absence of cyanosis—as well as the slightly prolonged anæsthesia—which follow its use, will be likely to discard it without due consideration. In another direction we are indebted to the scientific electricians. It is as yet impossible to realise the enormous part which electricity has to play in the world—it is still on the threshold of its existence as a practical force—but dentists are at least grateful to the inventive genius which has developed this wonderful, and even now but imperfectly understood force to its present point of utility, and made it an obedient slave to their will in the driving of dental engines, mallets, drills, &c., and the facilities it offers when we are called upon to attend to patients by artificial light. Then there is the new photography, in which I have lately myself been experimenting. There are, I find, at present difficulties in the way of utilising it to practical advantage in the photographing of teeth in the living subject, although this has been attempted, but when with more knowledge and improved methods we are able to examine the roots of our patients' teeth, it requires little imaginative power to foresee the possibilities in treatment which will be opened up, and the vastly improved chances of success we shall have in dealing with the varied and complicated cases which from time to time present themselves to us.

There are of course many subjects to which I would like to refer, were it not that I do not wish to tire you, especially as we have two papers to be read. One of these subjects, upon which I feel most strongly, is the training of dental students. Now I am very much in favour of students taking the highest qualifications within their reach; it is of course indisputable that everything that tends to raise the standard of the profession is to be commended, but I do think there is a danger to be guarded against, if we are to maintain a high standard of dental skill and efficiency, of curtailing the amount of study and practice given to mechanical dentistry, and in this connection I would remark, as you are doubtless aware, that at a recent examination in Ireland the examiners refused to allow several candidates to sit for their papers because of their utter want of knowledge and skill in mechanical dentistry, which most surely points the moral to my remarks.

Another matter that occurs to me to mention, although you are doubtless fully alive to its importance, is the close connection that exists sometimes between dental troubles and constitutional disturbances. In the course of my experience I have especially observed that obstructive diseases of the nasal passage and throat frequently accompany deformities of the teeth, palate, and jaw. I have had the opportunity of seeing a colleague of mine operate on several patients for the removal of adenoid growths from the naso-pharynx, and I have noticed that in many of these patients, high narrow palates, contracted jaw, and prominent front teeth were present. I feel that we as dentists are in a very advantageous position for recognising in young patients who are sent to us for dental irregularities, the presence of this concomitant nasal and throat disease. Knowing, then, that early operation in such cases is of the utmost value, it is plainly our duty to advise that a competent throat specialist be consulted, to remedy the obstruction to nasal breathing which, if it does not cause, at any rate often accompanies the palatal troubles which come before us. When we consider that throat deafness, deficiency of development, physical and mental, destruction of good speaking and singing voice, and other ills, follow directly in the train of nasal and post-nasal obstructions, we are only doing our duty as scientifically-trained, broad-minded, well-read men, in pointing out the importance of the matter to our patients. The responsibility of accepting or rejecting our warning can then be left to them.

One other subject I wish to say a few words upon and I have done. We are to have the pleasure of listening to a paper by Mr. John Oliver, of Cardiff, describing the plan of campaign which is being pursued in that town with regard to the unregistered dentists. Now I look upon this matter of the practice of dentistry by utterly unqualified and frequently unscrupulous men, as a very serious and growing evil. Apart from the fact that it must result in harm to the profession, there is, I consider, the far greater harm which is being inflicted upon a much too easily duped public. But, gentlemen, if we, for the putting down of this evil, have to wait until the general knowledge is sufficiently advanced to enable the public to protect themselves, I fear it will be a long time, and meanwhile, an incalculable amount of injury may be brought about. Matters like this, which are of serious importance to the public welfare, as well as to ourselves, seem to me to come within our province to discuss, and if we can by combined action check this evil of the practice of unqualified men as dentists, and also influence the public mind into a little better appreciation and knowledge of the complex arrangements of dental structure, and awake a more lively sense of the necessity for intelligent treatment by qualified men, we shall, I think, have justified our existence as much thereby as we do at present when we skilfully deal with the various dental diseases which come before us.

Mr. HARDING proposed that the best thanks of the meeting be given to Mr. Genge for his address. One of the greatest difficulties and embarrassments of the chairman of such an Association was the providing of a suitable address, but Mr. Genge had done so admirably, and had not only brought before strangers the main objects of interest in the city, but had given them a short and comprehensive statement of their professional advances.

Mr. SANDERS seconded, and the motion was unanimously agreed to, Mr. GENGE briefly acknowledging the vote.

Mr. BROWNE-MASON proposed a vote of thanks to the Committee of the Medical School for placing their handsome rooms at the disposal of the Branch.

Colonel ROGERS, in seconding, said the medical profession were more and more taking them hand in hand and helping them on their way, and the day was not far distant when every single member of the dental profession would be as much respected by the medical profession as members of the medical profession were by themselves. The motion was unanimously carried.

Mr. J. C. OLIVER then read a paper on "Our Plan of Campaign," which is printed as an original communication.

Discussion being invited, Mr. P. OLIVER, as Secretary of the Local Defence Association alluded to, said it might be interesting to know how they worked. They had altogether dealt with seven cases during the seven or eight months in which they had been in existence. The first two cases were dealt with by the Association. Evidence was collected and sent up to London. It was handled by the Business Committee and sent on to the solicitors of the British Dental Association, and after three or four months action was taken. They found that very costly, and the time expended very great, so they thought next time they would try for themselves. Their first two cases were Goodman (Newport), and Abel (Newport). They collected evidence, laid information, and three days afterwards these men were fined, Abel £5 and costs, having been previously convicted, and Goodman's assistant, who pleaded guilty, 40s. and costs. Since then they had had three more cases in Cardiff, which were adjourned last Tuesday. Two other men had been proceeded against, and two had left the town.

Mr. HARDING congratulated the branch on the efforts made by the local Defence Association, and admitted that a good deal could be done by it, but asked what would be the result of the prosecutions? What was the result in cases undertaken by the British Dental Association? In some, the man prosecuted had deleted from his advertisements those distinctive marks, names, or designations that infringed the Act, and instead of calling himself a dentist, called himself an "artificial teeth maker" or "a manufacturer of artificial teeth," and thus assumed a position that they could not touch. He did not think if they prosecuted these men, and drove them to do that, the registered practitioners were any better off. What they wanted was to prevent these men from practising under any guise. He should like to know what had been the result of the prosecutions in Cardiff.

Mr. OLIVER said one of the men called himself the Cardiff and South Wales Dental Company, and doubtless his wings were considerably clipped. Another man, calling himself the Dental Institute, had cleared out of the town, and so had some others.

Mr. MALLET said they were all more or less surrounded by these quacks, but more especially so in the large towns, and if, as Mr. Oliver said, they were able to "clip their wings," or pull off a feather or two, the birds still flew, he could see no way of dealing with them but one. They could not catch "birds," and they boasted that the prosecutions had been a grand advertisement, which brought them more before the public. He did not see that anything could be done, except by an amendment of the Dental Act. He had been residing in Melbourne recently, and there they had tried to prosecute these men, but he was sorry to say that up to the time he left, about two years ago, they had not done so with success. One of the companies there, was carried on by a gentleman who keeps a cigar shop, and these men, who advertised themselves as "guinea jaw" men, got about the biggest fees in Melbourne. He could assure them that prosecution had been a failure there. Mr. Oliver and his friends deserved the greatest praise for the trouble they had taken, but he thought they had only "plucked a feather or two," and the thing would go on until there was an amendment of the Dental Act.

Mr. QUINLAN said he had followed Mr. Oliver's paper with great attention, and thought his remarks about the plan of campaign fell in with the views of the profession. He did not think that anyone, however afraid of failure, could find fault with it. They had tried it in Cardiff and had succeeded, and they were not afraid of failure. If any failure were to occur, the sooner they found it the better, and then they could go forward to what they thought was the next point, the amendment of the Dentists Act. Mr. Harding began by supporting Mr. Oliver's paper, but soon he diverted into another channel and fell back on old remarks that had been heard over and over again from leaders of the British Dental Association. In London those men were not affected by quacks and unprincipled practitioners. Their bread was buttered, and they could afford to stand on their dignity. Their dignity in the provinces was what they made it themselves. They were dealing with a different class of people from those in the West End of London, and they must deal with them in a different manner. He had heard of Mr. Harding's views before, and had always detected that idea that the Council were afraid of failure. But the fear of failure at any price was — to put it in very plain language—humbug. Then there was Mr. Macdonald, of Manchester, of whom he had heard before. He was evidently practising as a dentist, and what was the good of the Dentists Act if he could do that? The sooner the thing was brought before the Dental Association and the Council the better, and the sooner the Act was amended the better. Goodman was going in for the same thing, and floating a Company (capital £100,000.) Were they to allow that sort of thing to go on? Hardly likely. They were all members of the British Dental Association, but that was no reason why they should not help the Executive by their influence and power to follow on the lines of Mr. Oliver's paper. Were they more important, more wealthy, and more influential than other classes, that they could afford to live on their dignity alone and ignore the means of protection which others adopt? Did the public appreciate them any the more for failing to look after their own interests and at the same time the interests of the public, which were identical with their own? The only course open to them was to follow the lines of the Society started in Cardiff and now rapidly extending, as admirably stated in the paper by its President. They had got a great idea that because they were professional men they must not do this, that, or the other thing, but they ought to look at the matter from a common-sense point of view, and keep pace with the times.

Mr. THOMSON said he was much pleased with the paper Mr. Oliver had read; it was extremely practical and very much to the point, and it dealt with the subject for which they really were met—much more so than the routine of their general work. It dealt with a good many details, which of course were of the greatest importance, but they must remember that after all it was a very small help to the whole wide subject of dealing with the advertising and non-registered dentist. The paper was of great value, and should be read by members in the Journal, but it only helped them so far. What they wanted to deal with more than ever was the public generally; they wanted to create a better opinion in the medical profession towards them as a body, and to create a better feeling in the public mind towards them as a body also. He thought they must congratulate themselves on the steps taken recently in the press, and on the help they had had in the prosecution of an ignorant and unregistered man of the name, he thought, of Idle. The public press had helped them very much by publishing letters very much to the point, and had shown that the public were altering in their views on dentists—that their work was not of so trivial a character that there was no need to take any serious steps to protect themselves. The letter of Mr. Tomes in the *Times* the other day helped to show that the public saw that their profession had a great bearing on the public health—not so much as the medical profession, but still dealing with life and health, matters of the greatest importance to the nation. He thought if they looked at the broader principles of the whole matter they would find that their best course after all was to strengthen their own body—the British Dental Association—and not cavil at what the Association was already doing. It was so easy to go into detail and show that the Association might not have succeeded in some few cases, because they had not been able to get at the details, while a branch Association or such an Association as they had in South Wales might succeed because the members were personally interested in the cases, and would be more willing to combine together to deal with those special cases, knowing all the details, whereas at a distance it was impossible to do so. That could be removed by the Association appointing local representatives who would deal with those matters, but he thought all the work that would affect the principle of the thing and change it and get the Act amended must come out of the parent Association. To do that they must strengthen the Association in every possible way, and—if he might divert a little from the subject of the paper though not from the title—he would suggest that one of the most important things was to strengthen the whole Association and enlarge their membership. As to how that was to be done he was sorry to say he could not suggest anything, but they ought to try. It was important to note the unanimity with which the Local Defence Association was taken up, because there was a personal interest in it. In Newport, they had been told, every practitioner joined, and in another town all but one. If it could only be shown that they were doing some definite work and getting all eligible men to come into their ranks, then they had done a great work, and it was on that point that he should like to get the members to see that there was a great advance to be made. He knew what it was to start an Association such as that in South Wales. Mr. Mallett had recalled the work they had tried to do in Melbourne. When he (Mr. Thomson) went out in 1883, there was nothing at all; there was no combination. The dentists were a large body, but they were quite apart from one another, and hardly knew each other. Now in every colony—though he was not sure about Western Australia—there was a Dental Act, and in every colony there was a Dental Association, even in New Zealand and Tasmania. There was one move which ought to be adopted—to try to enlarge the membership. Both at council meetings and at branch meetings—everywhere—something should be done to get hold of the unattached members of the profession. He was indebted to Mr. Oliver for his paper and for the very practical results which he had shown to have been obtained.

Mr. GILL WILLIAMS remarked that Mr. Thomson had said they should strengthen the Association, and presumed he meant by increasing the membership. He knew of at least four members of their Association who had given up because the Association was not doing its duty in that way. They had waited a long time for the Association to take some decisive steps to suppress the evil that was growing up so rapidly around them. Mr. Harding had said that the Representative Board had been building up precedents. This was like a man who had been sowing seed and all the while the weeds had been growing up around him. He charged the Dental Association that they had not done their duty to them, the middle-class dentists. Nine-tenths of the men on the Council were men in first-class practice who were not affected by this evil in the same way as they were. Let them come down to Cardiff, and Swansea, and Newport, and they would see men who were not registered, and who advertised in the most shameful fashion. They were rapidly drifting to the state into which the members of the British Medical Association found themselves, when a large number of them found it was not fulfilling its objects, and so started the Medical Defence Union. They started with a membership of something like 400 in 1888, and in 1894 they had a membership of nearly 4,000. He hoped something as practical was going to be the result of that discussion. They would be only too glad to extend their operations, and perhaps they would bring some force to bear on the British Dental Association to do some practical work. If they did nothing else he hoped they would be able to amalgamate with the Medical Defence Association. The more they were identified with the medical profession the better it would be for the dental profession.

Mr. Harding pointed out that there was the matter of finance to be considered. There were 700 or 800 members of the Association who got the Journal each month, which was run at a loss if they put the value of it at 6d. a month. With the balance they had to run the Association to pay the expenses of the Annual Meeting, and then they had to undertake prosecutions, not only for one city or one district, but throughout England, Scotland, and Ireland. The funds absolutely would not allow of general prosecutions if they wanted them, and what they had to do was to select typical cases. They tried to build up precedents in different points of the Act, and select cases which their legal advisers thought would ensure success, and another point—a very important one—was to select cases where they might be heard before a stipendiary.

Mr. Baudry-Mills did not think finance had anything to do with the question. They did not expect the Dental Association to do it for a guinea a year, and that was why they were willing to help them in prosecutions. They sent £10 for the first prosecution, and the Association sent them a barrister, and the result was they gained their day. The last prosecution had only cost 35s. They had started the ball rolling and they would keep it rolling. If the Association only did their duty and asked them for 10 guineas a year they would get it ; it would be a good investment.

Mr. Apperly asked would it not be well to bring the matter before the Annual Meeting of the Association. He did not think

Londoners gave them sufficient attention. Londoners really did not know the position they were in in the country, and had not got to fight against the conditions they had.

Mr. GARTRELL said Mr. Thomson had made a most practical remark in suggesting that the parent Association should appoint deputies and make it a sort of home rule business; that seemed a most promising thing to do.

The CHAIRMAN having expressed his opinion as to the good result which would come out of the discussion, Mr. J. C. OLIVER replied, saying Mr. Harding had been typical of the Representative Board, and its spirit of timidity and fear of failure. I may ask the question (Mr. Oliver continued), what is there gained by timidity and fear of failure? Do we stop these men by that? You say they become more bold if we can only show them the way. That is what we want. We have the Legislature at our back, and if we can only bring good cause before Parliament that people are being swindled in the way they are, then we will go unitedly for an amendment of the Act. As to the cost of the Association, it is a guinea a year, and nobody expects them to carry on prosecutions all over the country for that. What I suggest is that they should recognise the needs and understand the requirements of the whole body of dentists, that they should sympathise with them and form plans, such as we have already found to be so practical and useful in South Wales, by forming local centres throughout the kingdom. As for loyalty to the Association, we have already, through our Society, drawn in several members. Several who have been members have said it was no good, but we have brought in others, and are trying to do all we can to strengthen the Association generally. As to clipping of wings and drawing of feathers, and all that sort of thing, we do all we can, and that is all we can do. We use the Act so far as it goes, and not only that, but we intend to do so until it breaks. If the Association is afraid of going on, we shall, and shall go on until the Act breaks, and then we shall have some good reason for going to Parliament for amendment. We are sure of this, that what we require is not a new Act, but an amendment that will carry out the spirit of the Act. I would suggest as a practical proposal, that in other parts of this Western Branch, gentlemen who feel like ourselves—and we all feel it more or less—should take up something and do something. I would suggest that there should be a Society, in affiliation, of course, with the British Dental Association, formed in Bristol, in Cornwall, and in Plymouth, as in South Wales. You have quite enough with a guarantee of £10 each to frighten these fellows from the district ("No"). You may say "no," but by pegging away they get uncomfortable, and find it is not a paying game, and if we find it is quite incompetent to get results, we will go to Parliament for a new Act, If we are to wait for the British Dental Association to lead us, we shall stick in the mud for a long time. Mr. Oliver was about to move a resolution on the subject, when—

A MEMBER submitted that it was not in order, not being on the agenda.

Mr. ROBERTSON called attention to Bye-law No. 2, which he said covered exactly what they were going to do.

The CHAIRMAN ruled that a resolution arising out of the paper would be in order, and after some conversation as to the wording—

Mr. OLIVER moved "That the Representative Board of the British Dental Association be invited by this branch to encourage us in the formation of local centres for the purpose of more effectually carrying out the provision of the Dental Act."

Mr. GILL WILLIAMS seconded.

Mr. HARDING said: I do not see that the Representative Board can do anything in the matter. It lies in the province and power of any body of local practitioners to form themselves into an Association. Long before the Cardiff Association was formed there was one in Nottingham and another in Bradford, doing the same work, though not perhaps quite so effectively. I still think they are doing good, and I feel sure the parent Association is glad to see local societies formed for this purpose. I do not see that the resolution sent to the parent Association is of any service whatever. They wish you every success in the local society. They cannot found societies. It is open to any dentist to start and maintain such a society, and the parent Association will be only too glad to see them doing it.

Mr. GILL WILLIAMS said the object of the proposition was to ask for the countenance and support of the British Dental Association. We wish them, he said, to know what we are doing, and we wish them to know that we have the sympathy of the Western Branch behind us, and to say that they agree in what we are doing.

Mr. H. B. MASON: We have already done so by recognising your Cardiff Association.

Mr. WILLIAMS: That did work which they ought to have done without it.

Mr. H. B. MASON: The Board is quite in sympathy with any action taken by local associations, and it is quite a mistake to think otherwise. I think all this discussion and this attempt to divide the Association as it were into two sections, can only be mischievous, and it will came to grief.

Mr. OLIVER: If the Association is in sympathy with us we shall be only too pleased to hear of it. As to dividing the Association, I am sure we are the most loyal of you all, and we are prepared to plank down £10 apiece. Will you do the same? If you will we shall be able to do something. I do not withdraw the resolution because what has been said is all in favour of it.

The resolution was then put and carried. A large number abstained from voting.

Dr. HAYMAN then read his paper on "Immediate Root Filling."*

At the conclusion of the discussion Mr. BROWNE-MASON proposed and Colonel ROGERS seconded a hearty vote of thanks to the readers of the papers, and this was carried by acclamation.

On the motion of Mr. GILL WILLIAMS, seconded by Mr. MALLETT, the meeting, with much enthusiasm, thanked Mr. Browne Mason and Mr. Goard for their services as Hon. Treasurer and Hon. Secretary.

At the close of the business the members proceeded to Atherstone House, Clifton, where they were entertained at lunch by the President, Mr. Genge. At the end of the repast Colonel Rogers, on behalf of the members, thanked Mr. Genge for his hospitality, and expressed the pleasure it gave them all that he should be their President. Mr. Genge had well followed in the footsteps of their dear old friend, Mr. Thomas Cooke Parsons. The vote was carried amid loud cheers, and Mr. GENGE briefly responded. After lunch the members were photographed in the Artillery Ground, and subsequently they reassembled at Atherstone House, for practical demonstrations. Mr. Genge treated of "The Method of Making of Downie Crowns," and also gave a very interesting demonstration of the use of the Röntgen rays. Mr. G. Thomson demonstrated "A Modified Collar Crown, applicable to Superior Incisors and Bicuspids," and Mr. W. H. Goodman illustrated "Büttner's Method of Crowning"

The annual dinner was held in the evening at the Clifton Down Hotel, Mr. T. Taylor Genge, the President, being supported by a large number of members and visitors, among the latter being Mr. R. W. Ashley, J.P.; Revs. Fausset and Jones, Drs. Griffiths, Munro, Smith, Carling, Barclay-Baron, Atchley, Tivy, Lansdowne, and Messrs. Chalk and Thorne.

A pleasing feature of the evening was the musical programme carried out by Mr. Montague Warlock, Mr. W. H. Goodman, and a small orchestra conducted by Mr. Fred Watts.

Irreducible Dislocation of the Jaw.

THE successful treatment of a long-standing dislocation of the jaw is mentioned in the recent issue of the *British Journal of Dental Science*. The method pursued consisted in making two horizontal incisions just below the zygoma, so as to expose the articular condyle in its false position. A stiff instrument was next introduced, and leverage used against the tubercle of the zygoma. The result achieved was excellent, only two "thread-like" scars resulting. The case is interesting on account of the rarity of the operation.

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* To be published in a future issue.

Original Communications.

Inaugural Address.*

By FREDERICK CANTON, L.R.C.P.Lond., M.R.C.S., L.D.S.Eng., L.S.A.

Gentlemen,—In accepting the very honourable position of President of your Association for the ensuing year, I can assure you I have not done so by any feeling of being "the right man in the right place," but partly because I felt it would be ungracious on my part to refuse an honour so kindly bestowed, and partly because my interest has been, and is, thoroughly in accord with the good objects of this Association; and if by taking my present position I can in any way help forward those objects, I shall be amply rewarded for any anxiety or trouble the position may cause me.

Ladies and Gentlemen, the first privilege and duty I have the honour to perform is that of offering you all a hearty welcome to London in the name, not only of the Metropolitan Branch, but of all London members of the Association. I cannot pretend, even if it were desirable, to suggest to you, as our guest, the innumerable objects of interest which abound in the capital of a great Empire. In truth, a somewhat lengthy measure of observation has taught me that visitors see and know more of the popular objects of interest in London than do the natives. The knowledge of these things, which we as natives think we possess as something hereditary—something which has been acquired by unconscious mental assimilation in the course of our daily lives—is accurately and circumstantly acquired by strangers through industrious reading or intelligent personal inspection. The Londoner seeks his recreation "far from the busy haunts of men," and so he in his turn sometimes displays a knowledge of things rustic which frequently excites the wonder and admiration of his provincial friends. Our great historical buildings have had such a share in our national history that their existence, even in detail, is present in all our minds; so also from their universal importance are the great centres of our financial and commercial enterprise; but in all the plethora of manufacturing and commercial activity, in all our architectural grandeur, and in all our unique science and art collections—the hoardings and records of untold generations of human progress—there is one thing which we lack, and that one thing would be of all others a fitting subject on which to fix your attention at a meeting such as this. Speaking of ourselves, as connected with the medical profession, we have in London teaching resources such as are not to be found in combination in any other capital within my knowledge. I think that it is greatly to the honour of the profession that their opportunities have been utilised by the leaders and teachers of medical and surgical sciences; and so highly are their merits recognised, that some at least of our universities, in the matter of their M.D. diplomas, are fain to look to London as their clinical school, and further, that the conjoint diplomas which carry no degree or distinguishing title, still hold the highest position in the esteem of the profession at large.

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* Delivered at the Annual Meeting held in London, August, 1896.

London has frequently to bear the reflection cast upon it, that for various objects it makes great draughts upon the Imperial Exchequer; but, gentlemen, *we have no teaching university*. Our medical schools are not endowed with chairs, nor are our teachers, with a few exceptions, dignified by the title of professors, and yet I venture to say that both schools and teachers are second to none in the influence which they exert in the teaching of medical and surgical practice. Well, it is this absence of a teaching university which has excited my envy and regret, for when I remember the opportunity the existence of such an institution afforded my predecessor of entertaining you with an address at once amusing and instructive a year ago in Edinburgh, I feel indeed that as a Londoner, and particularly as your President, I have a distinct grievance. But though I am thus deprived of the dim myths and the stern facts of ancient history, I think that I can, from within my own more modern experience, indicate to you a point of interest which very nearly concerns ourselves. It will be my great pleasure and privilege, as President of our Association, to receive you this evening in the halls of the Royal College of Surgeons, when you will have an opportunity of inspecting some of the work of the great Scottish anatomist and unrivalled collector, John Hunter, as bearing on our specialty, and I am told also the diary of one of the leading London Resurrectionists. You will have an opportunity of catching, it may be but a glimpse, but still sufficient to give you some idea of what enlightened energy and professional patriotism can do. Perhaps, gentlemen, it may be the contemplation of institutions such as this which exist in London, that has raised some of the opposition to the establishment of our long-desired teaching University, for it may be argued—"and if they do this in the 'Greenwood,' what will they do in the dry ?"

Whether the advent of this great boon to the London student be at hand or only in the distant future, we may take it for granted that it will come; and when this occurs it will be for the executive of this Association to see that our profession receives that recognition to which it is entitled, and I believe that in so doing it will not hear one dissentient voice amongst us.

When we visit the Royal College of Surgeons I trust every member of our profession will remember the fact that it is to this Corporation we are indebted for the powerful lever of acquired and tested education, which was so useful to us when we applied to Parliament for the Act which ranked us as a profession. Twenty years before the passing of the Dentists Act the College of Surgeons established a combined surgical and dental examining board, and issued a dental diploma. This they did at an enormous expense. For it must be remembered, that the Dentists Act provided for the formation of dental examination boards by other licensing bodies; the Royal College of Surgeons had no such provision. What it did was done entirely in the interests of dental education. At this annual meeting the College has still further shown us its good will by granting us the use of its building—an act of generous kindness to which I have already alluded.

I trust you will find in the programme arranged for your entertainment during the meeting, not only food for the mind but rest and recreation for the body, and I hope you will all enjoy the meeting and be profited by it.

I would also take this opportunity of thanking our provincial friends in the name of the London men for the hospitality accorded to them on the several occasions of our meetings since we last met in London. In our endeavours to entertain you, I hope we have not lost sight of what I consider the main object of our annual gatherings, namely the scientific side of our work, and the advancement of our profession.

Since the meeting of the Medical Congress in 1881, when the late Sir John Tomes read a paper on "The Study of Dental Surgery, and the means thereto," we have had a good many other papers written read and discussed on the subject of dental education, and judging by these papers, we are still far from unanimous in our views on this question. That immense good has resulted from this subject having been brought forward on so many occasions I am quite convinced, and that it will from time to time be brought forward and discussed, I am certain must be the case if we are to keep pace with the times. That we shall ever all be unanimous in our views is more than can be hoped for.

In referring to the subject of dental education, I know I am treading on delicate ground, but the subject is such an an important one that the more it is ventilated the better it will be for the public and for the profession.

It is difficult to foresee or foretell what may be the ultimate development of our calling, but we cannot be wrong in attempting to adjust the curriculum of the dental student so as to ensure his becoming as competent a practitioner as possible, and in a young profession like our own it must take time to gradually perfect the course of education. We shall not arrive at perfection by any sudden advance; all such questions as that of education should begin by being carefully thought out and discussed.

It is only by divesting our minds of all prejudice and modifying our prepossessions that we can expect to make true progress. We must ever keep in view the advancing requirements of dental practice—not discarding anything that is old because of its age, nor rashly accepting that which is new because of its novelty.

Our profession is, perhaps, a little more difficult to deal with than some others, as we have a mechanical and a surgical side as well as a more purely scientific one. The combination is peculiar and the line can hardly be drawn, and if drawn at all must be of a very indeterminate character; but as for purposes of definition we, in physiology, talk of the animal and vegetable kingdom, so do we talk of surgical and mechanical dentistry, but the teacher of either subject knows not where to stop or where to begin, or how to keep a straight course if he attempt to divorce them. One of the objects of this Association should be, I think, to see that neither one side nor the other preponderates, that is to say, we must guard against any attempt at impairing our professional training and utility by allowing the mechanical side of our training unduly to outweigh the other, and at the same time we must be careful that our ideas are not dominated by the purely surgical aspect of our calling, for, if we do, the public as well as ourselves will be the sufferers. To hit this happy medium is not an easy matter.

Considering that, after our students get into practice, very few really construct their own appliances, I think this mechanical portion of our curriculum, compared to the other side, claims rather more attention than it might. Practically our curriculum is a five years' one, and I should like to see it declared as such, and the suggestion I would throw out is—that the third year of the three devoted to dental mechanics should be devoted to hospital work with a view to maturing and utilising the knowledge and skill acquired in the work-room, by not only making artificial cases and other appliances—but by executing the necessary preliminary work in the mouth, and then by carrying on the cases through their most difficult and most important stage, viz., adjusting them to their ultimate purpose. In this way one of those arbitrary but unsatisfactory divisions of our profession would be bridged over gradually, and even unconsciously.

A certain number of cases should be required to be done, and during this period chemistry, dental metallurgy, and materia medica should also be studied, leaving two years for the operative treatment of the mouth and for dental surgery attendance at the General Hospital.

The operative treatment of the teeth is certainly the most important part of the work we are called upon to do, but, as at present constituted, the curriculum seems to me to tend more to the mechanical side. It must be borne in mind that we do not propose to turn out *first*-class mechanics only, but operative dental surgeons. If we were training our successors as mechanics only, then five years, or even seven years, would not be too long a time to serve in the work-room; but, as I have said before, only a very small proportion of our profession do their own mechanical work in after life. But that all dentists must know how and be able to do the ordinary work required in our work-rooms is absolutely essential to enable him to become a good practitioner is an obvious fact, and for that reason the examination in mechanical dentistry has been established, with most excellent results, especially as to the improvement in the work now done at this examination, a fact which undoubtedly justifies the view expressed by Mr. Charles Tomes that: "there appears to be tangible evidence that the average candidate prepares himself with a strict regard to the requirements of the examination and no more, and that, within reasonable limits, increased requirements do not lead to wholesale rejections, but are very speedily followed by an improved standard of capacity in the candidates."

Two very important subjects of our training might, I think, with very real advantage be improved on, and those are dental histology and dental materia medica; the first especially should have a separate and well-organised department to itself in all our schools and include the elements of bacteriology.

The wider training we can give our successors, without deteriorating the absolute requirements for practice, the more certainly will they develop any latent talent which they may possess for investigation and discovery and so promote the scientific progress of our profession and serve their patients in a double capacity.

To show that in advocating what I have, I am not making any very great extra demand on the time of the student at present taken by him, Mr. Hallett, of the Examination Hall, has very kindly taken out a few statistics for me, as to the time taken to pass by the students of the present day, with the result that during the last nine years 205 candidates were admitted to examination in four years and under five years, 145 in five years and under six, 90 in six years and under seven, 24 in seven years and under eight, 24 took over eight. You will see, therefore, that 283 candidates have taken five years and upwards out of the total of 488.

The above statistics have been taken by Mr. Hallett from the dates of the first appearance of the candidate before the examining board, and not from the dates of his obtaining the diploma, so that they show truly the length of study and do not take into account the extra periods spent owing to rejections.

My own opinion is that by having a declared five years' curriculum instead of four, and by having two examinations for the Dental Diploma, it would not be putting any extra strain on the student, but on the contrary, it would give him the extra time which is required by the average student and enable him to pass with greater ease.

Another side of this question of education which is much more difficult to treat of, is that of the education of the public, to enable them to discriminate between the educated and competent practitioner and the opposite.

I must admit that it does seem to me in some cases not easy for the public to ascertain this difference. It is true there is such a publication as the Dentists' Register, but this would not, I am afraid, give them all the information they require, even if the publication of the book were known to them; the only really valuable information it would give them is, that if the person that has been attending them is not on this register they cannot be made to pay his fee. This information, however, is not to be found in the register proper, but in the Act of Parliament which is appended to it, and, moreover, I think that it is of questionable morality, for in many instances the patient is served quite up to the value of his expenditure, and, as two blacks cannot make a white, the refusal to pay for services rendered is only a further contribution to an illegal transaction; but it does not prohibit advertising, which is the great misleader of the public, for it not only flatters their ignorance, but appeals to their cupidity.

The Stock Exchange puts an advertisement in the papers daily, I believe, stating the fact that no member is allowed to advertise, and although the result is not as effective as one could wish, still, it has been suggested that possibly it might assist the public a little if we make a similar statement, viz., "That no member of the British Dental Association is allowed to advertise."

This, however, would entail some alterations in our bye-laws, but as these changes would be of a utilitarian rather than of a sentimental character, they might repay the necessary trouble by being profitable.

This might enable the public to make a few more enquiries before consulting a dental practitioner. There are, of course we know, many respectable practitioners who are not members of this Association, and it is much to be regretted that such is the case. I cannot help feeling strongly that it is the duty of every professional man to do his utmost to assist in the elevation and cultivation of that profession to which he belongs.

I have already alluded to the assistance afforded the public in its efforts to discriminate between the legal and illegal practitioner, and if we may judge by the letters which have appeared in our own Journal and in the medical journals, the matter to some minds appears an easy one—in other words, they consider that the law can be made to take the place of individual intelligence and become almost automatic in its action. But while this never can be, I think I am right in saying that the Dentists Act comes nearer to meeting the necessities of the public and the profession than any other Act hitherto passed with this object.

It has been the object of the executive of our Association to secure if possible any advantages which may arise in any change of the laws affecting the exercise of our profession. But the changes which we have at present to watch are of a kind which tend in their operation to destroy advantages already acquired, and to obliterate those distinctions which are so essential to the public at large.

The Companies Act as at present in force enables an individual to shelter himself under its ægis, and, as a company, to do that which in a private individual would bring him under the power of the law. In the contemplated legislation of the future it seems as if this anomaly were to be perpetuated, and it is to the prevention of such an iniquity that the efforts of our Executive are at present directed.

The extraordinary case of Regina *v.* Priestley, as noticed in our Journal of June 15, exhibited the inefficiency of the law in protecting the public from unskilled and unregistered practitioners in such an appalling manner as to call forth an article from the *Times*, in which the need for better legislation in reference to the practice of medicine and dentistry was powerfully urged. But whether or no such legislation will ever become urgent from a public point of view, I think we have good reason to protest against the present form of the law, which imposes upon the professional man a long and expensive course of education, and yet leaves him on the same level as such a pretender as Priestley. Surely if education and examination are imposed upon professional men for the protection of the public, it is only a rational sequence to expect that this education, once achieved, shall also be protected from the dishonest and dangerous assumptions of the ignorant and incompetent.

Gentlemen, in concluding my remarks on the subject of dental education and legislation, I trust that anything I may have said will be regarded only as that of one man's opinion, and not as coming in any authoritative way, on account of the position I at present occupy. I would suggest that the teachers of the various dental schools should meet periodically to discuss the question of education, as being the most likely way to arrive at a satisfactory conclusion.

The fact that the Royal College of Surgeons of England, after consulting with several of the Dental Schools, has recently made an alteration in its curriculum and examination has induced me to ventilate the subject, in the hope that your attention may be directed to this question, which will no doubt ere long claim your renewed consideration.

We will now, gentlemen, pass on to the more important business of the meeting.

On the Advisability of Branches undertaking their own Prosecutions.*

By H. BEADNELL-GILL, L.D.S.Eng.

Mr. President and Gentlemen,—It is with considerable fear that I venture to bring the subject of my paper before you to-day, and, after due thought, I fear it may be considered at least premature, or perhaps altogether ill-advised; but those who have known me longest will give me credit for doing the best for our branch according to my belief. Accepting as a fact that there is a feeling amongst us that more active measures should be taken to make operative some of the sections of the Dentists Act of 1878, and that we are in want of some means by which we can attack infringements of the Dental Act without having to send cases to headquarters; without further preface I will proceed to my subject by stating that I have failed to discover any bye-law or just reason why we should not take up any cases we may choose. The fact that the Act specially lays down that *any person* may enter a prosecution puts doubt as to our rights entirely out of the question; but, as you will see by the heading of this paper, I have confined myself more directly to the question as to whether it would or would not be advisable, and to that point I purpose particularly to address my remarks to-day. I think it well to tabulate my remarks by dividing them in the first instance into two divisions, (1) of reasons *against* our undertaking such responsibilities, and, on the other hand, (2) reasons *for* undertaking the responsibilities; and we might divide each of these again under the headings of actions against men who are non-registered, those who are registered, but without a diploma, and those who possess diplomas. The non-registered men might certainly be classed again under three headings—of swindlers, unregistered titles, and those with no titles who endeavour to keep up a certain high class of practice. Under the division "of the registered, without diploma," can be classed the unscrupulous, the falsely-registered, and again the capable men. Those with diplomas can be divided into those who break their undertaking by direct advertising, those who break their undertaking by indirect advertising, and those who break their undertaking by covering or committing other breaches of the regulations of the Medical Council. We can take these divisions exactly the same on both sides of the question, and, therefore, there is no necessity for me to reiterate the headings, of which I propose to consider some of the pros and cons to day. Having tersely put the various classes of individuals whom we should have under our notice, I think it will be well if we now take into consideration some of the points and difficulties there are to be contended with in the administration of the law. We may dismiss, with very brief remarks, those who come under the heading of men possessing diplomas. In cases of covering, &c., I do not see much reason why we should not bring them very easily within the purview of our Act, but it rather strikes me it will be more simple and more easy to refer cases of this kind to the parent Association than by instituting any direct proceedings on our own part, for the simple reason that they come under the jurisdiction of the Medical Council, by whom they are more quickly disciplined as being diplomad if the cases are brought before them by the parent Association. Those who by indirect advertising, and those who by direct advertising, and the diplomad men again who break their undertaking can be more easily dealt with by the parent Association, and under such circumstances it need hardly be gone into fully at the present time. It would, I consider, be better for us to make the necessary enquires, and then to leave the further consideration of the matter in the hands of the higher authorities. I rather lean to the idea that we should be doing more good by considering the advisability on our own part of enquiring at least into some of the cases which would come under the heading of "registered men without titles," for we all know that a large number of falsely-registered men exist; and there is very little doubt this is probably the very best field for the local Association. It is this class in particular against whom it is most difficult, except by local searching enquiries, to get such evidence as would enable us to bring, without an unnecessary waste of money, to a successful issue any prosecution that might be undertaken against this particular set. The bad class, or unscrupulous, I think we can deal with better in a later portion of my paper. Now I come to the non-registered of good-class men. The question becomes—should we or should we not separate these men under our immediate purview? These men *are* legitimate, inasmuch that they do actually good work; they do not injure any people who may come under their care. We cannot, therefore, appear before any judicial authority and say these men are doing what is bad or injurious to the general public, and this, I take it, would be the class probably of all others where our Act would be most difficult to enforce; but that our Act does apply against these men there is not the slightest shadow of a doubt. But as you, gentlemen, perfectly well know, after seeing the arguments used, not only by the prosecuting and defending counsel, but by the magistrates themselves on the bench, as in the case which took place some few months ago, you will see the extreme importance of our very careful procedure. But, on the other hand, it may well be taken into consideration whether it is right for us to allow what is palpably an evasion of the law of the land, because by doing so, although we try not to be harsh, or vindictive, at the same time we are favouring one set of men at the expense of another.

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* Read before the Southern Counties Branch, June 20, 1896.

Of late, as you well know, there have been some few prosecutions both directly and indirectly bearing upon the points and difficulties in the carrying through of a successful prosecution, and I should say probably the most important case that has been tried for many a long day was that of "Regina *versus* Priestley," to which the *Times* of May 28th devoted a leading article. Let me just mention for those whose notice it may have escaped that it was a case tried in Leeds of a man who was prosecuted for having, at a place called "Idle," practised as a dentist, and being unregistered (mark you, *unregistered*), caused the death of a maid-servant by administering chloroform. I do not intend to go into the minute details of this case, as time will not permit, but it seems from the evidence he was asked "if he administered laughing-gas," to which he answered he did. He thereupon proceeded to administer chloroform, which, of course, is not gas. The medical evidence conclusively proved that death ensued from the administering of chloroform, and, notwithstanding this fact, which seemed to us a decidedly illegal proceeding, that man was acquitted, and, you will immediately say, upon what grounds? Medical testimony was brought forward at the trial to the effect that chloroform was never administered by even qualified men alone, except under the greatest emergency, and that dental surgeons almost invariably made it a rule to have a medical man present when so dangerous an aæsthetic as chloroform was administered. Then, again, no witnesses were called for the defence. Now, as I said before, notwithstanding all this evidence, the defendant was acquitted. The Judge, summing up, observed to the jury that "*the law allows an unqualified person to perform operations and practise his profession*, and, provided he is not negligent and uses due care, he is not criminally liable." "The question for them was whether Priestley had administered what he knew or ought to have known to be a dangerous drug without taking such precautions as he knew or ought to have known to be necessary."

There was no evidence that the prisoner had neglected any precautions that he knew of. The point, as the Judge put it to the jury, was whether the accused was guilty of criminal negligence in using chloroform when he did not know more about it. The jury were at first unable to agree, but after the Judge had reminded them that the prisoner was entitled to the benefit of the doubt (if they had any substantial doubt), they eventually brought in a verdict of acquittal. According to the *Times*, the result must be assumed to be in accordance with the law as it stands, and the question of public interest raised by the trial is whether such a state of law is in itself satisfactory.

Now, gentlemen, if such be really the law, and I have no doubt it must be, does not that case point out to us the very serious difficulties we shall have to face if we decide, after mature consideration, to take upon ourselves the responsibility of administering the Dentists Act of 1878 in preference to allowing all to go up before the head authorities of our Association. Do not think I am personally averse to our taking a certain number of cases into our own hands, but I wish to bring this case of Priestley's and other points before your notice, as I am inclined to believe, after having many chats with both members and non-members of our Association, that if we acted upon the general opinion of most of the members of our profession it would be a case of "prosecuting in haste and repenting at leisure." Now, under another heading, let me start with, at first, a point which seems to have escaped the vast majority of men, viz., the difficulty of prosecuting advertising, although registered, dental practitioners. The first point in this particular class of cases would be the improbability of bringing your case to a successful issue, and a second point, a still not less important one, perhaps, to my mind, a more important one: What would be the effect upon these advertisers even if we were to succeed. To deal with the second question first, let me tell you these men know full well that the law has already been decided by the House of Lords, and that the law punishes *persons* who falsely proclaim by use of titles that they are qualified to practise, but at the same time it has decided that a *company* is not a *person*, and is, therefore, not liable to punishment. Consequently, a conviction against a *person* will not prevent his continuing to practise, as he has only to register himself as a company when he can immediately defy the Act. This plan was actually carried out in a case at Manchester. The man was prosecuted, convicted, and fined, and is now successfully practising as a company. A second illustration, equally instructive, might be given. In 1879, a man stood for the preliminary examination of the Pharmaceutical Society, the subjects being Latin, English, and arithmetic. The candidate was ploughed. He has stood on fifteen occasions since, the last being in January of the present year. He has not passed yet! In 1893, penalties were recovered against him for selling poisons as a chemist and druggist, and further penalties have been recovered since. He has now converted himself into a *company*, and, like his fellow at Manchester, can defy the Act. This result, in my opinion, rather throws cold water upon our attempting to get a successful prosecution against these advertisers who are registered only.

Let me go back to my first point. You will notice I have distinctly mentioned registered men; I would point out to you that because a man is registered he is not necessarily under the control of the Medical Council, and that alone is a most, in fact an all-important point in the question, for there has been no Act yet passed which will prevent those who are not under the control of the Medical Council from advertising, and therefore in these cases of registered advertisers, or any other, our efforts are distinctly limited to convicting them by some legal action under the common law, and that illegal action is so difficult to prove as to be next door to impossible, and even when successful my second point has only to be acted upon, and all our efforts, time, and money are thrown to the wind, and they get a lovely advertisement enabling them to pose as persecuted martyrs. The same reasons practically apply to even the unregistered man. He, too, can convert himself into a company, and so we are left with the only alternative of procuring common informers who have to go to work and make these acute and cunning gentlemen commit themselves into an explicit avowal of being a dentist, which practical experience has taught is not so easy a matter as one would imagine.

Now comes the question as to cases which would come under the law of covering. These are points upon which only experienced law administrators are capable of advising us, and I should say that we must be entirely dependent upon our legal advisers in any case we may from time to time have before us, whether as the parent Association or as a Branch. There is a point though which may be worth consideration, and that is, the advisability of helping those who have been clearly swindled, by bringing an action under our Act against such law-breakers, either in conjunction with or as nearly as possible at the same time as an action for recovery of the ill-gotten fees; by this means, if properly managed, it seems to me that we might get a good moral effect on the public, which, after all, is the most likely way of getting rid of such men.

I have put before you some of the pros and cons; some of the difficulties that stare not only ourselves but any others in the face who would take action in these matters, which are so important to us, and now I will come to a more important point to you—whether it is advisable to take up the cases ourselves, or even a portion of them, and I leave it to you to decide whether you think the cost is worth the candle. But I may frankly tell you that my reason for bringing this paper forward has been that I am sure there is a feeling among a large number of the members that we ought to do something, and unless that feeling is discussed it is apt to grow into a condition of discontent, when a little careful and fuller consideration of our difficulties may cause many of those who are now so much in favour of taking up these cases to change their mind. I would ask you first—Is this feeling good or bad for us? I consider that we are in fact very much like the colonies are in relation to the parent country. We feel we have been carefully nursed and trained, and eventually schooled in the management of our affairs, and now we are growing into adult life we should be, and are capable of, doing more in the management of our own affairs than we could a few years ago. This feeling is natural, and I take it as a healthy sign. It is a feeling all parents ought to be pleased to see springing up in the hearts and minds of their children, providing always the children give good promise that they have a good sound backbone, that they fully realise the sense of their responsibility, and that they prove, they show signs, of having come to years of discretion. In stating this I do not wish it to be understood that I believe there is any wish to leave our parent, who, after all, is our best and dearest, but I wish it to be understood our feelings are to the contrary. We wish our fond parent to still remain our guide, philosopher, and friend, but that at the same time we may be allowed to help in the administration of the general affairs of our united family; we may be allowed to administer our own special area under the benign influence of our *alma mater*. Should that feeling be fostered and nurtured, or should it be at once stamped out as being Utopian and impracticable? Those are the points which I should wish discussed, and hence my reason for putting before you a few remarks which, to my mind, may lead, if not immediately, at any rate in the near future, to increased strength, not only to our Branch but to the whole Association. To form some basis upon which the discussion can be conducted, it may be well to take it we seek greater responsibility and desire some workable scheme which will be acceptable to the parent Association, and a guarantee that we are in earnest. Then let me place before you a scheme as follows:—That you should first appoint a special committee of reference from amongst your members, to whom all proposed actions should be referred, and that they should have as special advisers a solicitor and a barrister, to whom they can refer, and for this I would suggest that you should endeavour to retain the services of the solicitor and especially the barrister of the parent Association. You may ask why I specially mentioned the latter? I will be frank and tell you why, and that is because that gentleman has had special opportunities for years, and still has those opportunities, which I believe no other barrister in the country has for getting at all the most subtle points in our Act; he has made the Dentists Act a special study, and perhaps his best and last recommendation is that he has never yet lost us an action. Now, for these reasons I advise you to secure those services if possible, and by so doing you will show we have no intention to be rash on the one hand, or disposed to give our parent anxiety on the other. Also that they should have power to seek and take advice in any other quarter or quarters they might from time to time deem advisable. I can see no valid reason whatever against this move on our part, but I have purposely left out one item until now, and that is the question of expense. Are you prepared to accept, without hesitation, the extra expense we shall have to incur to secure the services of well-tried men? If you are, have you considered what that expense may be? Now comes the question also—How are we to procure the necessary funds to meet the extra expenses? We have to consider the difficulties and risks of even appearing to be guilty of maintenance. Then we would have to make some provision as to the selection of each, if any, of our legal cases, and I should advise you very strongly to leave that to the absolute discretion of the Special Committee and their advisers; therefore I cannot see any useful purpose would be served by going outside the practise as now carried out by the parent Association. You will notice there is no allusion to a separate fund for legal expenses. After very careful consideration it seems to me that it would be most unwise to start a separate and distinct legal fund. We cannot do better than again go to the parent Association for an example of what ought to be done. I had intended to have entered with you into the question to-day of what is or what is not to be deemed the class of case or cases we should take up, but that seemed to be a separate and distinct subject which may call for discussion at a later period, and at present we should not serve any useful purpose by raising that question in full detail, so I hope you will agree with me in allowing that point to stand over.

If, after discussion of this effort on my part to solve perplexing problems, you should feel inclined to fall in with any of my views, I shall be prepared to put any necessary resolution before this meeting for the first steps towards carrying out what will be then your desires; but before I sit down allow me to offer a few words of advice and caution to you in as practical a manner as my powers will admit. And the first is to warn you that you must not run off with the idea that your committee will be able to undertake every case that might be submitted to them, or that any cases, by any possibility can be undertaken at short notice, or that it can be done without a material addition to your expenses, as I have before pointed out. I wish you to weigh these facts very carefully indeed, for I take it that it is not the intention of this branch to start a series of bad cases. We do not intend to have a less satisfactory record of cases won than that of our parent and teacher. We must make up our minds to move very cautiously and with due deliberation, so that those at the central office may learn to rely on their offspring being in every way as circumspect in these matters as they have been themselves, but at the same time to know we are saving them time, and trouble, and expense. I believe we can after a short time manage, at any rate, some of these matters, more expeditiously and more economically than could possibly be done by the parent Association, because we can be within short distance of the scene of action for one thing, and we shall have less other business to engage our attention for another. There is one more point I want to touch upon, and it is this, that this paper has not been written with any feeling that there is any ground for complaint against the parent Association for the way they have conducted our legal affairs, but quite the contrary. I feel perfectly certain that the more the members of this branch in particular become intimately acquainted with the difficulties and unavoidable delays which are always insuperable in cases of this kind, they will become more and more enthusiastic members of our branch, our Association and profession, and any feeling that things might have been done better by ourselves which may have been lurking in their minds will be completely dispelled.

Our Plan of Campaign.*

By J. C. OLIVER, L.D.S.Eng., Cardiff.

Gentlemen,—You will notice that the subject of my paper "Our Plan of Campaign" is suggestive of war. The occasion and necessity for open conflict with the unregistered, has long been recognised by the rank and file of our profession, who, not content with the occasional exhibition given them by the British Dental Association of the precision with which the provisions of the Dentists Act can be brought to bear, are now clamouring for some general action in which they individually shall bear a part.

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* Read at the Annual Meeting of the Western Counties Branch, held at Bristol, July, 1896.

It is doubtless important that the machinery should be well tried, and, thanks to the caution of the leaders of our Association, the provisions of the Act have been proved to be both thoroughly effective and easy of application. The Association has so far done a good and useful work, but it is not able, neither can it be expected that it should, spend its energies and its slender means on entering upon wholesale prosecutions such as the state of things in the profession at the present time demands ; a further and distinct organisation is now absolutely needed to carry on this, except indeed we are content to leave the matter of prosecutions entirely alone, and abandon the field and the profession to the ever-multiplying host of the unqualified. Whatever the feeling of the profession generally, may be, we in South Wales are not content to let this be. In this, their happy hunting-ground, we are well acquainted with the devices and the character of these men, for evidences of their illegal and unmerciful treatment, especially of the poor, are continually coming under our notice and exciting our indignation. We have proceeded to action ; tired of looking for a deliverer, we have determined to deliver ourselves, weary of ceaseless talking of what ought to be done. We ourselves have commenced the work of protecting the public against the nefarious practices of these charlatans, and of, at the same time, maintaining and defending those rights and privileges which belong to us as consistent members of our legally-appointed profession. I do not speak boastfully of what we in South Wales have done, but I rejoice that so feeble a folk as we are should be able to practically demonstrate to the profession an effective system, active and strong, sufficient, not only for carrying out an occasional prosecution, but so organised that we can sustain an untiring watchfulness and carry out any number of prosecutions and maintain them for any length of time—boasting that we not only have the men but have got the money too.

The history and occasion of our combination is shortly this: Struck by the increasing number of unqualified men, and by the unscruplous nature of their practices, a few of us in Cardiff met together and decided that it was our *duty*, not only to ourselves, but in the interest of the public also, to expose and suppress these men ; and we there and then agreed to form ourselves into a society for this purpose. Every reputable registered practitioner was invited to join, and it is gratifying and of important significance to note that of the thirteen men in the town and neighbourhood to whom the representation was made only one declined to join. Newport was next asked to unite with us, and here every practitioner joined the society; later, Swansea was communicated with, with the same gratifying result. Now it does not appear wonderful that all should join, and sign themselves as members of a society for their mutual benefit, providing that the prosecutions would be carried out and paid for by the British Dental Association; but when I tell you that every member on joining signed a document, of which the following is an exact copy, you will, perhaps, allow that there must have been some enthusiasm, and some powerful principle have stirred them.

The following is the Article of Association:—

"We, the undersigned, for the purposes of mutual protection and benefit, undertake and agree to combine and form ourselves into an Association to be called the South Wales and Monmouthshire Dental Society the object of which shall be to further the interests of the dentists of this district. With this object we subscribe our names, whereby we undertake to become members of this Society and to bear our part in the expenses necessary for the carrying out of the aforesaid objects to the extent of £10 each, and we further undertake to pay such portion or portions of this amount as from time to time may be required at the call of the Secretary for the time being."

Signed—

Here we have twenty-two names each undertaking to provide £10 as may be required—giving us a fund at our back of £200, sufficient for all purposes for a long time to come; especially if all future prosecutions cost us so little as those at Newport, where the two cases only cost us about 35s. or less than £1 each.

Now the moral I wish to be drawn is this, that what we—so few, so feeble, and so scattered, as the dentists in Cardiff, Swansea, and Newport—can do, the dentists in every large city and in every county in England, Scotland, and Ireland can as readily and as effectively accomplish.

Now the benefit of this combination does not rest altogether in subscribing to and promoting these various prosecutions; it serves another and perhaps higher purpose. We hold our meetings monthly at each other's houses, and for the time are the guests of the brother who entertains. You may imagine that this friendly intercourse can be only productive of good, and I can assure you that the pleasure of knowing so intimately one's *confrères* in the town and neighbourhood adds greatly to the interest of daily practice; so that from whatever point we regard it we look upon it as a good investment.

As president of this little Society, I can say there never was greater loyalty to a cause, everyone vieing with the other who can do most for the common good; hence the Secretary is greatly assisted in his more onerous duties. Another feature of our combination is that we are not ashamed of the business we are engaged in. Our Secretary recently used the occasion of the case of death from chloroform at Idle to publicly draw attention to the existence of the same class of men in our own midst, pointing to recent prosecutions, and I can assure you that much good has already been effected by our Society in educating the public in the difference between qualified and unqualified practitioners, and the public, instead of regarding our action with disfavour in prosecuting these men, appreciate and applaud our endeavours.

Already we have successfully prosecuted four, one being an unqualified assistant of Goodman & Co., and three others have had three summonses issued for trial next week.

It would not be prudent here to reveal all that we intend doing; but we have our programme, and, as far as South Wales is concerned, we intend doing two things at least. Even if we do not exterminate the brood, we intend to clip their wings that they may not be able to soar so high, nor fly so far; moreover, we intend to keep the public posted up by every means in our power, enabling them to distinguish between the sheep and the goats.

In this undertaking, gentlemen, I am glad to tell you that we are chiefly actuated by a sense of duty. First, duty to the public, whose servants and whose guardians we are; next, a duty to our profession in separating and giving the public to distinguish the unregistered from the registered; lastly, a duty towards ourselves.

And now let me remark that our combination has not in any way lessened our loyalty to the Association or the Western Branch; it has rather strengthened it, and the sooner the Association acknowledges that she is unfitted for undertaking great and wide action, and sets about encouraging the formation everywhere of local centres, such as we have already proved to be so effective, the better it will be for the prosperity of the Association. They will still have plenty of work in receiving reports, in getting up cases to present to the Medical Council, and in obtaining, by joint action along with the British Medical Association, an amendment of the Dentists Act.

If the British Dental Association is to continue to be the ruling power in the profession, they must show themselves to be in sympathy with the aspirations and demands of its constituents, the struggling mass of honest, respectable men, whose very livelihood is being snatched from them by the host of unprincipled rivals becoming more numerous and more unscrupulous every day. This all in consequence of the do-nothing, dog-in-the-manger policy of that Association, which confessedly exists for the primary purpose of defending the Dentists Act. Whatever may be said in praise of the Association, they have lamentably failed in this, and everywhere defection and falling away from the ranks is the result.

Do you suppose a body of shipowners or other business men protected by Act of Parliament would allow their interests to be trampled upon and their rights infringed in the way that the body of dentists have. And should dentists, because they are professional men, tamely submit to be robbed, as a profession, to the tune of something like, it may be, £100,000 a year. It must not be; the profession demands that prompt and universal action be taken, and we call upon the Association to place itself at the head of the army, the members of which everywhere are waiting to see the standard unfurled. What need is there for the timidly cautious policy of the Executive of the British Dental Association? If the Dentists Act be so feeble or uncertain that it cannot be vigorously handled in a common-sense way, the sooner its weakness and ineffectiveness is proved the better, and even now that we know its strength we also want to find out its breaking-point, and then go to Parliament for an amendment of the Act.

If the present Act could be obtained eighteen years ago, with the state of the profession and of public sentiment as they then were, would it be a difficult matter to get the Act so amended to-day as to be absolutely satisfactory to the requirements of the profession and to the safeguarding of the public? The age is progressive, and the Dentists Act must keep pace with it.

In my opinion there is no body of men so influential in the obtaining of parliamentary powers as the united body of dentists. Every member of the Legislature comes under our influence by a more or less intimate acquaintance with us as their dental advisers, and where our cause is righteous and for the public good we might effect any change that we thought desirable.

Now, gentlemen, let us no longer waste our time in weary talk and futile lamentations. Our enemy is not a visionary one; let us one and all rouse to action, and, if properly led, in two years time every unregistered practitioner in the kingdom will find dental surgery a very precarious and unprofitable enterprise, and the profession will have purged itself from that discreditable body of men which in the eyes of the public they are credited as being affiliated with.

Legal Intelligence.

Prosecutions under the Dentists Act.

At Cardiff First Police-court on Tuesday, July 28, the stipendiary (Mr. T. W. Lewis) had further cases brought before his notice arising from prosecutions taken out under the Dentists Act of 1878. The first defendant was Templar Malins, of Woodville-road, Cardiff, who was represented by Mr. Alfred Jackson. Mr. T. H. Belcher appeared on behalf of the British Dental Association to prosecute, and stated that the proceedings were taken out under Section 3 of the Act, which forbade any person to take an addition or description implying that he was registered under the Act, or specially qualified to practise dentistry. Defendant carried on business as a chemist at 107, Woodville-road, and outside his shop he had placarded the words, "Popular dentistry." A member of the Dental Association had gone to the shop, and had been given a card bearing defendant's charges for extracting teeth, with or without gas. These facts were admitted by the defence, and in mitigation Mr. Jackson urged that there was no desire on the part of Mr. Malins to make his clients believe that he was a fully-qualified dentist. Defendant was fined £5 and costs, or in default one month's imprisonment.

A SIMILAR case was proved against G. F. Bamber, of Castle-road, for whom Mr. Lewis Morgan appeared, the prosecution again being conducted by Mr. Belcher. The circumstances of the case were that outside defendant's house a case of teeth was exhibited, and on the railings these words—"Bamber. Teeth extracted. Prize medal artificial teeth." Defendant also distributed cards which bore statements to the effect that he was specially qualified to practise dentistry. A fine of £20 and costs, with an alternative term of imprisonment of two months, was imposed, this being defendant's second offence, he having been previously convicted for an infringement of the Act at Barrow-in-Furness.

A third summons was heard against a man called Goorwich, manager of the American Dental Co., who, in defence, presented a San Francisco diploma. The solicitor for the prosecution, not knowing what value was to be put upon this diploma, asked for a remand, the case to be heard again on Tuesday week.

Reports of Societies and other Meetings.

The New Regulations Relating to the Diploma in Dental Surgery of the Royal College of Surgeons of England.

These regulations will come into force on and after January 1, 1897.

EDUCATION.

Candidates who register as dental students after January 1, 1897, are required to pass three examinations—the Preliminary Science Examination, the First Professional Examination, and the Second Professional Examination—and to produce the following certificates before admission to the several examinations :—

PRELIMINARY SCIENCE EXAMINATION.

1. Of having received instruction, at an Institution recognised for the purpose, in Chemistry, Physics, and Practical Chemistry.

This instruction may be taken prior to the Date of Registration as a Dental Student.

FIRST PROFESSIONAL EXAMINATION.

2. Of having been engaged, during a period of not less than three years, in acquiring a practical familiarity with the details of Mechanical Dentistry, under the instruction of a competent Practitioner, or under the direction of the Superintendent of the Mechanical Department of a recognised Dental Hospital, where the arrangements for teaching Mechanical Dentistry are satisfactory to the Board of examiners in Dental Surgery. In the case of qualified Surgeons, evidence of a period of not less than two instead of three years of such instruction will be sufficient.

This instruction may be taken prior to the Date of Registration as a Dental Student.

3. Of registration as a Dental Student by the General Medical Council, 299, Oxford Street, London, W.
4. Of having attended at a recognised Dental Hospital and School :—
    - (*a*) A course of Lectures on Dental Metallurgy.
    - (*b*) A course of Practical Dental Metallurgy.
    - (*c*) A course of Lectures on Dental Mechanics.
    - (*d*) A course of Practical Dental Mechanics, including the manufacture and adjustment of 6 dentures and 6 crowns.

SECOND PROFESSIONAL EXAMINATION.

5. Of having been engaged during four years in the acquirement of professional knowledge, subsequently to the date of registration as a Dental Student.
6. Of having attended at a recognised Dental Hospital and School :—
    - (*a*) A course of Dental Anatomy and Physiology.
    - (*b*) A separate course of Dental Histology, including the preparation of Microscopical Sections.
    - (*c*) A course of Dental Surgery.
    - (*d*) A separate course of Practical Dental Surgery.
    - (*e*) A course of not less than 5 Lectures on the Surgery of the Mouth.[1]
7. Of having attended at a recognised Dental Hospital, or in the Dental Department of a recognised general Hospital, the Practice of Dental Surgery during two years.
8. Of having attended at a recognised Medical School :—
    - (*a*) A course of Lectures on Anatomy.

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[1] These Lectures may be given either at a recognised Dental Hospital and School, in which case the Lecturer must be a qualified Surgeon practising Surgery, or they may be given at a recognised Medical School, and may form part of the course required by Clause 8 (*d*).

(*b*) A course of Lectures on Physiology.
(*c*) A separate Practical Course of Physiology.
(*d*) A course of Lectures on Surgery.
(*e*) A course of Lectures on Medicine.

9. Of having performed Dissections at a recognised Medical School during not less than 12 months.
10. Of having attended, at a recognised Hospital or Hospitals, the Practice of Surgery and Clinical Lectures on Surgery during two Winter Sessions.
11. Of being 21 years of age.

The Certificates of professional study will be required to show that Students have attended the courses of professional study to the satisfaction of their Teachers.

NOTE.—Professional study prior to the date of registration as a Dental Student is not recognised except in the case of Chemistry, Physics, and Practical Chemistry, and of instruction in the details of Mechanical Dentistry (see Clauses 1 and 2), and will not be counted under any circumstances in lieu of part of the four years' study subsequent to the date of registration as a Dental Student, required by Clause 5.

EXAMINATION.

1. The Preliminary Science Examination consists of Chemistry, Physics, and Practical Chemistry, and will be identical with Part I. of the First Examination of the Examining Board in England. Candidates may present themselves for this Examination before entering at a Dental School on production of the Certificates required by Section I. Clause 1.

A Synopsis of the Examination in Chemistry, Physics, and Practical Chemistry may be obtained on application.

A Candidate who shall produce satisfactory evidence of having passed an examination for a Degree in Medicine on any of the subjects of the First Examination conducted at a University in the United Kingdom, in India, or in a British Colony, will be exempt from Examination in the subjects in which he has passed.

A Candidate referred in this Examination will be required, before being admitted to re-examination, to produce a Certificate that he has received further instruction in the subjects, to the satisfaction of his Teacher, at an Institution recognised for the purpose by the Examining Board, for a period of not less than three months subsequent to the date of his reference.

2. The First Professional Examination consists of Mechanical Dentistry and Dental Metallurgy, and will be partly Practical and partly Oral. Candidates may present themselves for the first Professional Examination for the Licence after the completion of six

months' attendance at a recognised Dental Hospital and School, on production of the Certificates required under Section I. Clauses 2, 3, and 4.

A Synopsis of the Examination in Dental Metallurgy will shortly be issued.

A Candidate referred in either or both of the subjects of the First Professional Examination will be required, before being admitted to re-examination, to produce a Certificate, in regard to Mechanical Dentistry, of having received six months' further instruction under the conditions specified in Section I. Clause 2; and, in regard to Dental Metallurgy, a Certificate of having received, subsequent to the date of his reference, not less than three months' instruction in that subject, to the satisfaction of his Teacher, in a recognised Dental School.

3. The Second Professional Examination consists of General Anatomy and Physiology, General Surgery and Pathology, Dental Anatomy and Physiology, Dental Pathology and Surgery, and Practical Dental Surgery.

The examination is partly written, partly practical, and partly oral.

The Written Examination comprises General Anatomy and Physiology, General Pathology and Surgery, Dental Anatomy and Physiology, and Dental Pathology and Surgery.

At the Practical Examination Candidates may be examined

(*a*) On the Treatment of Dental Caries, and may be required to prepare and fill cavities with Gold or Plastic filling or material, or to do any other operation in Dental Surgery.
(Candidates must provide their own instruments.)

(*b*) On the Mechanical and Surgical treatment of the various irregularities of Children's teeth.

The Oral Examination comprises the several subjects above mentioned, and is conducted by the use of preparations, casts, drawings, &c.

Candidates may present themselves for the Second Professional Examination on production of the Certificates required under Section I. Clauses 5 to 11, after the completion of four years' professional study from the date of registration as a Dental Student and after the lapse of not less than six months from the date of passing the First Professional Examination.

A Candidate referred at the Second Professional Examination will be required to produce, before admission to re-examination, a Certificate of three months' additional study at a General Hospital and a Special Dental Hospital, the precise attendances required at each Hospital being left to the discretion of the respective Hospital Authorities.

Candidates who have passed the Second Examinatlon of the Examining Board in England, or who shall produce evidence of having passed the Examination in Anatomy and Physiology required for the Licence in Surgery of the Royal College of Surgeons of Edinburgh, the Royal College of Surgeons in Ireland, or the Faculty of Physicians and Surgeons of Glasgow, or an Examination in Anatomy and Physiology required for a Degree in Medicine or Surgery at a University in the United Kingdom, will be exempt from re-examinations in those subjects.

Candidates, who are Members of the College, or who have passed the Examination in Surgery of the Examining Board in England, or who shall produce evidence of having passed the Examination in Surgery for the Licence in Surgery of the Royal College of Surgeons of Edinburgh, the Royal College of Surgeons in Ireland, or the Faculty of Physicians and Surgeons of Glasgow, or an Examination in Surgery for a Degree in Medicine or Surgery at a University in the United Kingdom, will be exempt from re-examination in General Surgery and Pathology.

4. The fee for the Diploma of the Licence in Dental Surgery is Twenty Guineas, and is payable in the following manner, viz. :—

				£	s.	d.
Preliminary Science	Examination.	Each admission	...	3	3	0
First Professional	Do.	Do.	...	2	2	0
Second Do.	Do.	Do.	...	5	5	0

The balance, if any, of the total fee of Twenty Guineas to be paid on the completion of the several examinations, before the Licence is granted.

5. The Preliminary Science Examination will be held in January, March or April, July and October in each year.

The First and Second Professional Examinations will be held in May and November in each year.

Candidates are required to give fourteen clear days' notice of their intention to present themselves for examination.

NOTE.—*A ticket of admission to the Museum, to the Library, and to the College Lectures will be presented to each Candidate on his obtaining the Diploma.*

EDWARD TRIMMER,
July 9, 1896. *Secretary.*

N.B.—All applications with reference to the Examinations for the Diploma in Dental Surgery should be addressed to Mr. F. G. Hallett, Secretary of the Examining Board in England, Examination Hall, Victoria Embankment, London, W.C.

The Dental Hospital of London.

PRIZE DISTRIBUTION.

THE annual Conversazione and Distribution of Prizes in connexion with the Dental Hospital of London, Leicester Square, and the London School of Dental Surgery, was held at the galleries of the Royal Institute of Painters in Water Colours, Piccadilly, on July 24, the chair being taken by Sir J. Crichton Browne.

Mr. MORTON SMALE (the Dean) in a brief report on the work of the hospital during the past year, referred to the continuous success of the school, and remarked that they had had a larger number of students entered than ever before, and a larger number of students had been successful in obtaining their diplomas at the Royal College of Surgeons. Those most closely identified with the hospital had constantly before them the necessity for its rebuilding, in order to provide accommodation for the ever-increasing number of students and patients, and he believed and hoped that before long the public would have responded to their appeal to such an extent that the new building might be commenced.

Sir J. Crichton Browne then presented the prizes to the following :—

Saunders Scholar : Mr. R. L. Young. Ash's Prize : Mr. T. W. Thew. Certificate of Honour : Mr. A. R. Heath.

WINTER SESSION, 1895-6.—*Dental Mechanics.*—First Prize : Mr. F. J. Padgett, Mr. R. L. Young. Second Prize : Mr. A. R. Heath. Certificates of Honour : Mr. T. C. Myers, Mr. P. R. Cooper, Mr. H. Dunlop, Mr. J. H. Robertson, Mr. J. C. Douglas.

Metallurgy.—First Prize : Mr. A. R. Heath. Second Prize : Mr. R. L. Young. Certificates of Honour : Mr. T. C. Myers, Mr. F. W. S. Metcalfe.

Operative Dental Surgery. — First Prize : Mr. R. L. Young. Second Prize : Mr. J. Humphries. Certificate of Honour : Mr. A. R. Heath.

SUMMER SESSION, 1896.—*Dental Anatomy.*—First Prize : Mr. T. W. Thew, Mr. A. R. Heath. Second Prize : Mr. R. L. Young. Certificates of Honour : Mr. T. H. Miller, Mr. H. Westron, Mr. W. W. James.

Dental Surgery.—First Prize : Mr. R. L. Young. Second Prize : Mr. N. Miller. Certificates of Honour : Mr. A. R. Heath, Mr. T. H. Thew, Mr. E. H. J. Smart, Mr H. Westron, Mr. E. Joseph, Mr. J. L. Roper, Mr. J. C. Douglas, Mr. W. W. James.

Students' Society Prize.—Mr. W. F. Forsyth, junr.

Prize presented by the President of the Students' Society for the best Casual Communication.—Mr. F. J. Padgett.

Sir J. CRICHTON BROWNE, at the close of the distribution, delivered a short address to the students, in the course of which he reminded them that they were entering a profession at once ancient and rapidly progressing. The number of dentists had increased prodigiously of late years, and dental aid, which was at one time restricted to the affluent, was now sought by all classes of the community. The standard and the status of the dental profession had advanced and increased in more than a proportionate degree. Up to the year 1878 the profession of dentistry did not come within the scope of any special Act. Nowadays, although it was still impracticable to prevent partially educated and qualified persons from practising dentistry, they had, by the register, put it in the power of the public to distinguish between the white and the black sheep. And if the public still chose to employ the black sheep, it was their own affair, and they must take the consequences. The dental profession, by the mere efflux of time, had greatly improved its position and status. The old school was dying out and the new one was taking its place. He would not speak disrespectfully of the old school, for it included a large number of able and accomplished men who did admirable work in their day and generation, but, at the same time, it embraced a large number of only partially educated and qualified men. It was a subject of great congratulation that all those now joining the legitimate ranks of the profession had been fully trained in every department of it, and had excellent preliminary and scientific training. He believed that the dental profession in this country was unsurpassed in skill, attainments, and probity, by that of any other country in the world. In conclusion, the speaker referred to the needs of the hospital, and said he trusted the necessary funds for the extension would soon be forthcoming.

The remainder of the evening was devoted to music under the direction of Mr. Herbert Schartau.

Edinburgh Dental School.

THE annual presentation of prizes to the successful students of the Incorporated Dental Hospital and School took place at the Hospital, Chambers Street, under the presidency of Emeritus Professor Struthers, F.R.C.S. The seventeenth annual report, which was given in by the Dean (Mr. W. Bowman Macleod) stated that there were this year 46 students, compared with 3 when the school first started. There were 24 entrants this year—a decided increase on the previous twelve months — and out of 20 who completed their curriculum and went up for examination, 18 were successful. During the year 15,000 cases had been treated, and the fact that about one-half of these were for the preservation of the teeth showed that the school was exercising a great educative influence among the poorer classes in regard to the value of their teeth and the vast good that attended conservative treatment and the arrestment of decay.

The chairman having presented the prizes, shortly addressed the students, remarking upon the great changes that had occurred in the dental profession during the last half century. The greatest change had been brought about by the Dental Act of 1878, before the passing of which nobody knew whether a man was a dentist or a quack. The Act enabled the public to distinguish between the qualified and the unqualified, and gave the profession a status. The British public, however, loved to be quacked, and would never agree to prevent anybody practising medicine or dentistry, though they had a right to know who were qualified and who were not. In conclusion he paid a high compliment to the School, and said he would recommend any young man who wished to become a dentist to study at Edinburgh.

Miscellanea.

The Sheriff of Bonnie Dundee.

In the course of the prosecution in Dundee which was recently carried out by the Association, the sheriff who tried the case indulged in some remarks on dental surgery which were calculated to do an immense amount of harm to the general public. This gentleman has again given his opinion upon an intricate question of ophthalmic surgery, and the value of such an opinion can easily be gauged by a perusal of the following extracts from the columns of the *Lancet*. The case in question was one where a Dundee dyer, having injured a constable's eye, it was removed to avoid sympathetic trouble. The prisoner pleaded guilty and was sentenced to nine months' imprisonment. The sheriff, however, stated that he did not believe in "sympathy" between two eyes. To quote the report he continued:—"'It appeared that the eye was to be treated as totally destroyed. That was in accordance with medical practice and medical theories nowadays, and he could not resist saying when he was going to punish the man because of medical theories, and the use of medical theories, that he did not believe in the necessity of scooping out an injured eye in order to save the other. He had a number of acquaintances who had lost the sight of one eye temporarily. One of them lost his sight for about six months, and, according to the practice of doctors nowadays, the eye would probably have been taken out. Fortunately for him, when he went to the doctor's house the doctor was not in, and the sight of his injured eye was afterwards as good as the other one. It was utterly inconceivable by any one that believed in the beneficence of nature to believe that the taking out of an eye could do anything whatever to save the other eye. What possible reason could there be for a partially destroyed eye being more dangerous to its neighbour than a totally destroyed eye?' When an educated man, and one accustomed by his training to argue reasonably, can talk such silly nonsense as this, we can no longer wonder at the twaddle talked upon medical subjects by those less educated."

The Post of Lecturer on Dental Anatomy at the Dental Hospital.

The Medical School in connection with the Dental Hospital are to be congratulated upon the appointment of Mr. Charles Tomes to the Lectureship on Dental Anatomy, rendered vacant by the resignation of Mr. Underwood. It was the unanimous wish of the staff that Mr. Charles Tomes should be asked to fill the vacant post, and by his acceptance of the invitation the school has indeed been a great gainer.

The Coming Election for the General Medical Council.

Of the three candidates for the vacant seats upon the General Medical Council which are filled by the votes of the medical profession, two—Dr. Woodcock and Dr. Lovell Drage—will, if elected, use their best endeavours to get a dental representative upon the Council, and Dr. Glover is also believed to hold similar views. It is therefore desirable that every dentist who has a vote should use his best endeavours to secure their return.

Exanthematous Necrosis.

In a very excellent paper upon the action of the specific infectious fevers upon the mouth, published in the June *Dental Record*, Dr. Austin dwells at some length upon the so-called exanthematous necrosis. Speaking from his experience gained at the Western Fever Hospital, he remarks that necrosis of the jaw is not a common complication of scarlet fever, as it only occurs in about one case out of two to three hundred. It is usually met with where the disease assumes a severe type, and in which the throat symptoms are prominent, and is usually first clinically recognised in the second to the third week of the illness, at which period the patients in such severe cases are acutely ill. The most frequent sufferers are patients between the ages of four and six, although it is occasionally met with in younger patients. "Scarlatinal necrosis of the jaw is most frequent in the lower incisor region on the labial side. It is, however, often seen in the bicuspid and molar regions on the buccal aspect. In the former situation it is usually symmetrical, less frequently so in the latter. In one case, under the care of a colleague, necrosis occurred on the inside of the ramus, well behind the last molar tooth, and not involving the alveolus in any way. The necrosis may involve the bone forming the sockets of the temporary teeth only, or more rarely and especially in the lower incisor region cause destruction of the bone enclosing the sacs of the permanent teeth. The sequestrum usually takes two or three weeks to separate. The mortality of the cases in which necrosis of the jaw takes place is high, partly from the usually intrinsically severe nature of these cases, partly from aggravation of the symptoms caused by the necrosis. In the worst cases the mouth becomes horribly foul, and the patient soon dies of pyæmia or septic bronchopneumonia. Two causes may be clinically recognised for this necrosis of the jaw in scarlet fever. Firstly, exposure of the bone by ulceration of the gum, seen in severe stomatitis, already alluded to. Secondly, and more frequently, injury. The latter cause may appear a somewhat remarkable one to anyone not acquainted clinically with this disease."

Books Received.

TRANSACTIONS OF THE AMERICAN DENTAL ASSOCIATION. The S.S. White Dental Manufacturing Co., 1896.

ODONTOLOGISCHE BLATTER FUR CENTRAL-, NORD- UND OST EUROPA.

Dominion Dental Journal, The Dental Digest, Le Progres Dentaire, Archives Nationales di Stomatologie et d'Art Dentaire, The Dental Review, The Dental Cosmos, Revue Odontologique, The Dental Practitioner and Advertiser, The Medical Press and Circular, Pediatrics, The Transactions of the Odontological Society, The International Journal of Microscopy and Natural Science of Great Britain, The Pharmaceutical Journal, The Bradford Daily Telegraph, Items of Interest, The Dublin Journal of Medical Science, The Pennsylvania School Journal, The Chemist and Druggist, The British Journal of Dental Science, The Ohio Dental Journal, L'Odontologie et la Revue Internationale d'Odontologie, Skandinaviska Tandläkareföreningens.

Letters and other Communications received from :—

A. Maurice ; Messrs. Burroughs, Wellcome & Co. ; E. Beyer; T. Gill Williams ; H. Beadnell Gill ; D. M. Alexander.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 9. SEPTEMBER 15, 1896. Vol. XVII.

The Annual Meeting of 1896.

TRULY it may be said that the Annual Meeting of 1896 eclipsed all previous records, and on all sides one only heard expressions of gratitude to the executive for what proved to be a splendid gathering. Everything passed off without a hitch; and it augurs well for the future of the Association to see the increased interest which the members take in the annual re-union. In point of numbers, 1896 far outstripped all previous years, no less than 318 signing the attendance-book; while, in the list of visitors, we note with pleasure representatives of the profession from America, France, Portugal, and Holland. As we ventured to predict in our July issue, the prolongation of the meeting by an extra day proved most successful, for by this means sufficient time was allotted to the different items of the programme, with the happy result that the "rush" which has characterised some of the gatherings of late years was entirely absent.

The General Meeting opened with a valedictory address by the retiring President, and this was followed by the address of our new President. Mr. Canton dwelt principally with the question of dental education and legislation, and many of his remarks form food for deep and careful meditation. At the same sitting the sixth report of the Schools' Committee on the "Teeth of Children," was presented and adopted, and an important resolution passed, regretting that no notice had been taken in the report of the Departmental Committee of the Local Government Board in the Poor Law Schools of the teeth of the children attending those schools. This omission decidedly called for remark, when it is remembered that the attention of the Departmental Committee has been specially called to this question by the Schools' Committee.

An important alteration with regard to the election of members to the Representative Board was adopted, whereby the Branches now have the right to elect annually one member to the Board. The concluding business of the meeting contained two or three points of more importance than usual—first, the election of Mr. W. Hern as Treasurer, in lieu of Mr. Betts, who, through pressure of work, found himself unable to carry out the duties of that post; second, the adoption of a resolution expressing the deep sympathy of the Association with our French brethren at the loss of their esteemed and distinguished colleague, Mons. P. Dubois. At the period when the dental profession is being consolidated in France, such men as Dubois cannot be spared, and we know and feel that his loss will be keenly felt, and that his place will be with difficulty filled; third, the remarks of Dr. Marshall of Chicago, who spoke on behalf of the visitors present at the meeting. The good feeling expressed by him is, we know, reciprocated by all those in this country who have the cause of the profession at heart.

The papers read were not only interesting, but for the most part of scientific value. Mr. Cunningham's paper on bridge work created quite a lively discussion; while Mr. C. S. Tomes once again opened up fresh fields for thought in the domain of dental histology. Mr. Constant, in a carefully-thought-out paper, advanced the view that "the blood pressure" is probably an important factor in causing the eruption of the teeth; Mr. Sidney Spokes contributed some valuable notes on the so-called "Honeycombed teeth"; and Mr. Alfred Woodhouse recounted his reminiscences of fifty-four years in the dental profession.

The Microscopical Section, which has shown steady progress since its inception, fully maintained its position. The President, Mr. A. S. Underwood, was, through illness in his family, unable to be present, and the section was thus unfortunately deprived of what would, without doubt have been an interesting and valuable address.

The Demonstrations, which form such an interesting part of these meetings, were numerous and educationally valuable. The arrangements made by the members of the Demonstration Committee were excellent, and they are to be congratulated on the success which attended their efforts. The manufacture of crowns proved the centre of attraction; and it is interesting to mark how the demonstrations act, so to speak, as the barometer of dental manipulative progress.

This, however, is hardly the place, even if it were desirable, to discuss all the various demonstrations, a full detailed account of which will be given in the October issue. But a point suggests itself, and it is this—one of the main objects of dental surgery, like medicine, is the relief of pain. The true dental surgeon aims at getting the best results without causing a needless amount of pain. At these annual meetings we expect to see the highest development of the practical side of our calling; and such operations as the removal of living nerves without the use of a general or local anæsthetic, is not only uncalled for, but is to be deprecated. Such proceedings belonged to the dark days of dentistry; and we trust that we may never again, on these occasions, be the witness of such an operation.

A word of praise is due to those responsible for the excellent collection of dental requisites, and that the members thoroughly appreciated this was evident by the large numbers always to be found wandering about the portion of the building set apart for their exhibition.

The report of the Benevolent Fund Committee, presented at the general meeting of the subscribers, showed the increasing use and value of such a Fund. During the year Branch representatives have been appointed, and now ladies are to be enlisted in carrying out the work of investigating cases, and generally assisting the Committee. While speaking of the Benevolent Fund, one cannot help expressing the thanks of the Association to Mr. Ackery for the faithful way in which he continues to carry on the duty of hon. sec., the prosperous condition of affairs being, in a large measure, due to his exertions.

The social side of the meeting was not lost sight of, and the Entertainment and the Ladies' Committees are to be congratulated upon the way in which the various items were carried out. The thanks of the Association are due to the Metropolitan Branch for the reception at the Hotel Métropole on the Tuesday; to the President and Mrs.

Canton for their invitation to the Royal College of Surgeons on the Wednesday; to Mr. and Mrs. Mummery for the enjoyable garden party at the Manor House, Southall, on Thursday; to Dr. and Mrs. Walker for their generous entertainment to the ladies on Friday; and to the London members for the excellent excursion to Richmond on the Saturday.

A large measure of the success of the meeting is to be attributed to the splendid accommodation afforded by the Examination Hall. It is a building suited in every respect to the wants of such gatherings, and it always seems a pity that it cannot be bodily transported to the various centres we from time to time go to. One final word, and that is to thank the Hon. Sec. of the Association for the way in which he carried out his many duties; and it must have indeed been gratifying to him to see that the London meeting of 1896 was brought to so successful a conclusion.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

The Annual General Meeting.

The Sixteenth Annual Meeting of the Association was held on August 12, 13, 14, and 15, in London, at the Examination Hall, Victoria Embankment, the social head-quarters being at the Hotel Métropole.

The following members signed the attendance book during the meeting:—

Ackery, J., London.
Alexander, M., Liverpool.
Amoore, D. W., St. Leonards.
Amoore, John S., Edinburgh.
Anderson, W. D., Glasgow.
Andrew, John J., Belfast.

Apperson, J. F., Birmingham.
Apperley, E., Stroud.
Apperley, H., London.

Bacon, W. B., Tunbridge Wells.
Badcock, J. Harry, London.
Baker, A. E., London.
Balcomb, T., Jersey.
Balding, E., London.
Baldwin, Harry, London.
Ball, A. E., Bournemouth.
Barrett, R., London.
Bennett, F. J., London.
Bennett, Storer, London.
Betts, E. G., London.
Biggs, J. A., Glasgow.
Birch, J. Charters, Leeds.
Blandy, Henry, Nottingham.
Blyth, Z. C., Hull.
Bowtell, H. R., London.
Boyton, I. J. H., London.
Bradbury, E. A., Huddersfield.
Breeze, F., London.
Brooks, H. R. F., Banbury.
Broughton, W., Manchester.
Brown, Ed., Barnstaple.
Browne - Mason, C., Scarborough.
Brunton, G., Leeds.
Burt, Walter, Weymouth.

Cameron, R., Glasgow.
Campbell, W., Dundee.
Campbell, W. G., Dundee.
Campion, G. G., Manchester.
Canton, F., London.
Caush, D. E., Brighton.
Clark, Charles A., London.
Cocker, Alf., Sowerby Bridge.
Cocker, Arthur, Halifax.
Coffin, H. L., London.
Cole, J. Fenn, Ipswich.
Collett, Edw. P., Manchester.
Colyer, A. R., Beckenham.
Colyer, H. O., Ryde.
Colyer, James, London.
Colyer, J. F., London.
Constant, Thomas E., Scarborough.
Cooper, C. H. Bradford.
Corbett, D., jun., Dublin.
Cornelius, W. F., Teignmouth.
Cousins, —, Portsmouth.
Coxon, S. A. T., Wisbech.
Coysh, T. A., London.
Craig, J. Thos., Leicester.
Cumine, R. H., London.
Cumming, James, Glasgow.
Cumming, Peter, Falkirk, N.B.
Cunningham, Charles Maclean, Dublin.
Cunningham, George, Cambridge.
Curle, Arthur, Leamington.
Curnock, G. D., London.

Davis, F. H., Leeds.
Day, J. H., London.
Dall, William, Glasgow.
Davis, C. D., London.
De Lessert, Alfred A., Aberdeen.
Dennant, J., Brighton.
Dickin, J. S., Southport.
Dickinson, M. De C., St. Leonards.
Dilkes, Page T., South Shields.
Dolamore, W. H., London.
Dopson, D., Liverpool.
Dougan, William, Manchester.
Dreschfeld, L., Manchester.
Dumayne, H. L., London.
Dunlop, John, Kilmarnock.
Dykes, Thomas, Dumfries.
Dykes, William, Bowden.

Edwards, Richard, Liverpool.
Egan, L. J., Cork.
Elliott, W. T., Birmingham.
Ellwood, F. H., Redhill.
Elmit, S. F., Newcastle-under-Lyme.
Ezard, Herbert B., Edinburgh.

Fagge, L. M., London.
Fisk, W. J., Watford.
Flintan, F. R., Weybridge.
Foster, G., Birmingham.
French, Gilbert.

Gabriel, W. M., London.
Gartrell, J. H., Penzance.
Geekie, W., Oxford.
Gill, Harry Beadnell, London.
Glaisby, Walter, York.
Glassington, C. W., London.
Grundy, C. D., Batley.
Goddard, H. E., Nottingham.
Goddard, William, Nottingham.

Greetham, P. W., Beckenham.

Hall, E. I. C., London.
Handley, C. W. Croft, London.
Harcourt, B. W., Norwich.
Harding, W. E., Shrewsbury.
Hare, G. F., Limerick.
Hare, S. W., London.
Harrison, Frank, Sheffield.
Harrison, Richard, London.
Harrison, R. M. C., London.
Harrison, Walter, Brighton.
Hartley, F. J., Birkdale.
Hatch, R. M., Bristol.
Hatton, F. J., Bristol.
Headridge, David, Manchester.
Headridge, William, Manchester.
Helyar, W., Clifton.
Henry, G., Hastings.
Henry, M., Folkestone.
Hepburn, David, London.
Hern, George, London.
Hern, W., London.
Heron, Arthur, Elgin.
Hilder, A. T., Birmingham.
Hinchliff, W. O., London.
Holford, J. J., London.
Holford, W. S., London.
Hoole, Stephen, London.
Hooton, W. A., Manchester.
Hope, W H., Wellingborough.
Hopson, M. F., London.
Horsey, G. M., London.
Houghton, Edwin, Manchester.
Howard, F. R., Birmingham.
Howkins, T. M., Great Grimsby.
Hughes, Morgan, Croydon.
Hugo, S. G., Guernsey.
Humby, W. R., London.
Hunt, W. A., Yeovil.
Husbands, J. E., Great Grimsby.

Jackson, T., Burnley.
Jameson, J. T., Newcastle.
Jeffery, Louis, London.
Jones, Alfred, Cambridge.
Jones, John Henry, Sale.

Keckwick, J. F., Carlisle.
Kerr, E. S., Brighton.
King, Arthur, Guildford.
King, R. F. H, Newark.
King, T. E., York.
Kluht, Henry J., London.
Knowles, Vernon, Reading.

Lankester, Frank, Leicester.
Larbalestier, J. H., Newbury.
Large, C. W., London.
Laurence, H. A., London.
Lee, Josiah, Bradford.
Lennox, R. P., Cambridge.
Lewes, E. A., London.

Lipscomb, J. Moore, Kilmarnock.
Lloyd-Williams, E., London.
Lodge, Alonzo, Huddersfield.
Lodge, George H., Rotherham.
Longhurst, S., London.
Love, Hugh, London.
Lucas, G. J., London.
Lumley, John W., Kirby Moorside.

MacGregor, M., Edinburgh.
Mackenzie, F. V., London.
Macintosh, T. H., London.
Macleod, W. B., Edinburgh.
Maden, W. H., Rawtenstall.
Madin, W. T., Birmingham.
Maitland, L., London.
Mallett, H., Plymouth.
Mallett, John A., Exeter.
Mansell, Thomas, Birkenhead.
Marson, Cyril D., Stafford.
Masters, F. W., Manchester.
Matheson, L., London.
Matthews, A. A., Bradford.
Matthews, William, Liverpool.
May, W., London.
May, W. J., London.
McAdam, G. C., Hereford.
McCash, James M., Glasgow.
Mechan, A. R., Dundee.
Mellersh, W. F., Surbiton.
Minshall, F. W., Manchester.
Mitchell, Samuel, Dewsbury.
Moon, W. D., Newcastle.
Moore, G. P., Dublin.
Moore, R. H., Dublin.
Morley, C. R., Manchester.
Morley, Henry, Derby.
Morris, W. G., Worcester.
Mountford, Arthur H., Plymouth.
Mummery, J. Howard, London.

Murray, Lilian, London.

Naden, P. T., Birmingham.
Neale, W. H. Breward, Birmingham.
Nicol, W. H., Leeds.
Northcroft, George, London.

O'Duffy, J., Dublin.
O'Duffy, K. E., Dublin.
O'Keefe, Hubert, Cork.
Oliver, J. Cardell, Cardiff.
Oxley, L. J. R., Shrewsbury.

Pare, John W., London.
Parris, R. S., Peterborough.
Parsons, E., London.
Paterson, W. B., London.
Peall, F. S., London.
Pearce, A., Holmfrith.
Pedley, G., London.
Penfold, W. M., London.
Pike, J. L. F., Sheffield.
Planck, Henry, Manchester.
Plunkett, J. C., London.
Pollard, R. L., London.
Porter, F. C., Nottingham.
Prager, Arnold, London.
Preedy, Edward, London
Price, Rees, Glasgow.

Quinlan, Thomas, Cardiff.

Ranken, J., Sunderland.
Read, Henry G., London.
Read, L., London.
Read, T., London.
Redman, J. H., Brighton.
Reeves, Samuel George, Dublin.
Reinhardt, J. H., London.
Renshaw, Elisha, Mansfield.
Renshaw, Isaac, Manchester.
Richards, F. W., Birmingham.
Richards, G. O., London.
Rilot, C. F., London.
Ripon, Charles, Dewsbury.
Ritchie, T. P., Bristol.
Robbins, C., London.
Robertson, J. L., Cheltenham.
Robertson, H. A., Birmingham
Rooke, J. H., London.
Rose, Frederick, Guernsey.
Rose, Harry, London.
Routledge, W. G., Newcastle-on-Tyne.
Rouw, R. Wynne, London.
Rowney, T. W. F., Derby.
Rushton, William, London.
Rymer, S. Lee, Croydon.

Sanders, J. J. H., Barnstaple.
Saunders, Sir Edwin, London.
Schelling, Carl, London.
Sherwood, Martin, Oxford.
Simms, William, Manchester.
Smith, A., London.
Smith, Arthur Hopewell, Boston.
Smith, J. Percy, London.
Smith, E. H., London.
Somerville-Woodiwis, W., West Hartlepool.
Spokes, Sidney, London.
Stack, Richard Theodore, Dublin.
Stewart, James, Coatbridge.
Stirling, J., Ayr.
Stocken, A. P., London.
Stokes, C., Sheffield.
Storey, J. C., Hull.
Storey, W., York.
Studley, T. F., Dublin.
Sutcliff, C. F., South Shields.
Sutcliffe, H. W., Bradford.
Sutcliffe, Wm. A. O., Bradford.

Tait, Thos. A., Tenterden.
Tanner, Thomas, Manchester.
Taylor, James, Leeds.
Taylor, William, Batley.
Taylor, William J., London.
Thomson, Geo., Torquay.
Tomes, C. S., London.
Tomlinson, J. W., Weymouth.
Torpey, G., London.
Trollope, W. T., Tunbridge Wells.
Tuckett, H. H., Bath.
Turnbull, R. A., Newcastle-on-Tyne.
Turner, J. G., London.
Turner, J. Smith, London.

Van der Pant, F., London.
Vice, W. A., Leicester.
Vickery, E. A., Coventry.
Vowles, Frank, Nottingham.

Walker, J., London.
Walker, P. S., Dundee.
Wallis, Arthur P., Doncaster.
Wallis, E. J., Alloa, N.B.
Wardill, George J., West Luton.
Watson, C., London.
Watson, D., London.
Webster, P. L., London.
West, C., London.
White, G. W., Newport.
White, T. Charters, London.
Whittaker, G. O., Manchester.
Whitrod, H. F., Diss, Norfolk.
Whittles, J. Dencer, Birmingham.
Williams, H. Lloyd, London.
Wilson, J. A., Bangor.
Wilson, D. Baillie, Edinburgh.
Wolfenden, Arthur B., Halifax.
Wood, John, Brighton.
Woodhouse, A. E. C., London.
Woodhouse, A. J., London.
Woodhouse, R. H., London.
Woods, J. A., Liverpool.
Woodward, Roger, Radcliffe.
Woolf, M. Y., London.
Yates, S. G., Ross.

The following visitors also attended the meeting:—A. C. Clark (Chicago), Dr. E. Burt (Paris), Dr. Harold Austen, Henry J. Morris, Hume Purdie, Thos. G. W. Hoole, A. S. Jones, Dr. Edward H. Angle (St. Louis, U.S.A.), Louis Dupan (Leeds), Ferdinand Grevers (Amsterdam), C. H. Battersby (Cannes), A. de Burgh Battersby (Brighton), Frank Bell (Tunbridge Wells), Edward Dimock, C. A. Timme (Berlin), F. C. Douglas, H. Watson Turner, E. J. Whishaw Wallis, A. Edmund Spender, W. H. Must, Alfred Smith, H. G. Perkins, W. Green, W. H. Park, Stephen P. Ludbrook, James C. Clarkson, William H. Ash, Surgeon Major Kelawala, C. F. P. Baly, S. I. Holford, W. J. Renton, J. Westwood, S. Rose, H. C. Rose, Joseph T. Ash, Archibald Archer, W. White, C. J. Hinchliff, Stafford George Lacey, R. W. Turner, H. V. Tattersall, R. Corney, C. Lüterbock, H. Bellamy Gardner, Dr. Marshall (Chicago), M. Gonsalves (Lisbon), G. Rosse Ashton (London), H. W. Morris (Worcester), W. F. Roe, G. W. Jennings, A. H. Heath, C. Lees, E. P. Smith, T. C. Myers, S. T. Wale, J. H. Robertson, C. H. Malone, R. L. Young.

Tuesday, *August* 11.

Reception at the Whitehall Rooms, Hotel Métropole.

At the invitation of the Metropolitan Branch, the members and friends attending the meeting were entertained at a Conversazione, in the Whitehall Rooms, Hotel Métropole, on Tuesday evening, August 11. The guests were first received by the President and Council of the Branch, the remainder of the evening being devoted to a selection of vocal and instrumental music, and an Exhibition of objects of general scientific interest, including the attractive *x* rays.

Wednesday, August 12.

Meeting of the Representative Board.

The Representative Board met in the Council Chamber of the Examination Hall, Mr. J. H. Mummery (London) in the chair. The members present were Messrs. A. T. Hilder, Breward Neale (Birmingham); Hopewell Smith (Boston); A. A. Matthews (Bradford); J. H. Redman (Brighton); G. Cunningham (Cambridge); D. Corbett, jun. (Dublin); J. S. Amoore, W. B. Macleod (Edinburgh); J. A. Biggs, Rees Price (Glasgow); J. C. Storey (Hull); G. Brunton (Leeds); Henry Blandy (Nottingham); F. Harrison (Sheffield); L. Read (Uxbridge); Storer Bennett, E. G. Betts, F. Canton, W. Hern, Sidney Spokes, C. S. Tomes, J. Smith Turner, and W. B. Paterson, Hon. Secretary (London).

Letters of regret were received from Messrs. R. Rogers, W. E. Harding and J. T. Browne-Mason.

The HON. SECRETARY read the minutes (which were confirmed), and referred to a case arising out of the same. He said that the solicitor of the Association had been unable to serve notice on the person in question, who had changed his address.

With regard to the Inland Revenue Plate Licence Question, the HON. SECRETARY said he had had no further complaints, and was not aware that the two gentlemen referred to in the minutes had been asked to pay tax for using gold or silver as dentists.

Mr. REES PRICE called attention to a letter in the May Journal of the British Dental Association from a member of the Representative Board. It had been decided not to publish the proceedings of the last Board Meeting *in extenso*, and yet in the letter in the Journal he complained of, a member of the Board had published *ex parte* an account of the proceedings there transacted. If such a condition of affairs were permissible, it would seriously hamper in the future the deliberations of the Board.

Mr. SMITH TURNER said that when a letter was received from a member of the Association and signed by him, it was customary to allow it to appear in the Journal unless it contained anything libellous or likely to injure the Association to a great extent. That was the view of the Publishing Committee, and he believed it to be correct.

Mr. L. Read thought the letter in question was calculated to do a great deal of injury to the Association, and that it was not advisable to publish letters of that character.

The President said the Publishing Committee was unwilling to refuse a letter signed by a member of the Association unless it contained anything libellous. The object was to make discussion as free as possible.

Mr. Smith Turner did not think it wise to discuss in detail the policy of the Publishing Committee. It was evident that more harm might be done by suppressing a letter than by publishing it.

The Treasurer's Report was (on the motion of Mr. Spokes, seconded by Mr. Read), taken as read.

The President regretted to announce that the Treasurer had sent in his resignation. They were very sorry to lose his services. It was understood that Mr. W. Hern was willing to accept the office.

On the motion of the President a vote of thanks was passed to the retiring Treasurer.

The Hon. Secretary's report was taken as read.

Mr. Spokes asked if any further information could be given on the subject of Legislation in *re* the Companies Acts' Amendment Bill.

The Hon. Secretary stated that the latest information he had to offer was that since his report was written, the Lords' Committee in charge of the Bill had met and considered the matter, and had adjourned its discussion *sine die*. He did not suppose that they had dropped it, but had found that, owing to the pressure of business, it could not be proceeded with. The Bill would probably be re-introduced next session.

The Schools' Committee Report was taken as read.

Mr. Cunningham said that a resolution had been prepared proposing that some action be taken, to be sent to the Local Government Board, but it need not form part of the report.

Mr. Smith Turner thought it undesirable to include resolutions in reports; they should be kept separate.

Mr. Spokes read the resolution.

Mr. Smith Turner proposed that the resolution be recommended to the Annual General Meeting.

Mr. Blandy seconded the motion, and said he thought the present moment was opportune, as the Local Government Board had recently rescinded its rule with regard to the inspection of the teeth of postal officials.

The PRESIDENT said it would be better to adopt the report of the Committee first.

On the motion of Mr. REDMAN, seconded by Mr. REES PRICE, the report was adopted.

Mr. SMITH TURNER'S motion recommending to the Annual Meeting the resolution read by Mr. Spokes was also adopted.

The HON. SECRETARY said that the Irish Branch had met, and had decided to invite the Association to hold its meeting in Dublin in 1897, suggesting at the same time that it would be well received if Dr. Theodore Stack were to be appointed President.

Mr. BLANDY proposed that the invitation be accepted.

Mr. TOMES said he had heard that the resolution inviting the Association had been adopted at a very small meeting of the Branch, and that possibly some members might prefer a later year.

The HON. SECRETARY said he had understood that the Irish Branch Council had met somewhat hurriedly and decided to recommend that the invitation be sent. It was then necessary to call a special meeting of the Branch together to adopt or not the decision of its Council. As the annual meeting of the Branch had been held only a week or two previously, it was improbable that the members would come in any great numbers to Dublin to vote on a question of that sort. He was informed, however, that although the numbers were small, the unanimity displayed was wonderful.

Mr. CUNNINGHAM said that his brother, a member of the Council, though not able to be present, had sent a telegram supporting the invitation and the nomination of Dr. Stack. He (Mr. Cunningham) proposed that Dr. Stack be asked to act as President.

Mr. BIGGS seconded the motion.

Mr. CORBETT said he had come as the accredited representative of the Irish Branch, to offer a cordial invitation to the Association to meet in Dublin in 1897. He could promise the members a hearty welcome.

The PRESIDENT asked Mr. Corbett what would be the most convenient time.

Mr. CORBETT said he thought August would be the most convenient month. There would be a horse show towards the end of the month, and the meeting might perhaps be held during the early part of the previous week; he would remind members that the Dublin Horse Show was considered to be one of the greatest events of its kind. The Irish Branch would be greatly gratified if Dr. Stack were elected as President.

The PRESIDENT said the proposal which the Board was asked to submit to the General Meeting was that the invitation be accepted, that the meeting be held in August (the precise date to be fixed later on), and that Dr. Stack be appointed President.

The motion was unanimously adopted.

MOTION OF THE WESTERN COUNTIES BRANCH.

The PRESIDENT said that the next business was a motion carried at a meeting of the Western Counties Branch, held at Clifton in July last, viz., "That the Representative Board of the British Dental Association be invited by this Branch to encourage and assist in the formation of local centres for the purpose of more effectually carrying out the provisions of the Dentists Act."

A MEMBER asked if some explanation of the reasons for introducing this motion could be given by any member of the Branch.

The HON. SECRETARY said that no member of the Western Counties Branch was present in the room.

Mr. CUNNINGHAM said he believed a local committee had been formed, each member contributing £10, with a view of prosecuting irregular dental practitioners in the South Wales district. A number of prosecutions had been successfully carried out, three irregular practitioners having been wiped out of one place. A good deal had been done in that way to improve the condition of dental practice in the neighbourhood. It showed what could be done by local action. The prosecutions, following recent successful action of the British Dental Association in the same town, had been carried out at a very moderate cost. If they had been conducted at head quarters they would have entailed great expense. He thought the Representative Board should lay the matter before the annual general meeting and express its willingness to encourage such local action.

Mr. Blandy seconded the motion for submitting the resolution to the general meeting. The Local Committee were determined to root out all irregular practitioners, and to do their best to help themselves. He thought it would be wise to listen to what the Western Counties Branch had to say on the subject. If the Board threw cold water on the proposal, the more vigorous-minded men would go on their own path, to the possible injury of the Association.

Mr. B. Neale wished to know whether the resolution was intended to commit the Board to any particular course of action.

Mr. Smith Turner said that under the Dentists Act private individuals might undertake prosecutions. Branches, or any other body, could act without the intervention of the Representative Board; but he was quite sure that the Association would be ready to assist local efforts in every possible way. He wished to uphold the independence of the Branches. He recommended that the communication from the Western Branch be received, and that the Secretary be instructed to write and explain the position of the case. The Representative Board had no power over the Branches except to ask them not to use the name of the British Dental Association.

Mr. Cunningham thought it would be a great advantage to have a discussion on the subject. It would be a pity to miss the opportunity of showing that the Board was actually in touch with the bulk of the members of the Association.

Mr. Matheson asked the meaning of "encouraging and assisting." Did it mean monetary assistance? He considered the resolution indefinite.

Mr. Bennett asked whether the resolution could be put without proper notice.

The President said that no sufficient notice had been given in accordance with the Bye-Laws, and therefore no motion could be made at the General Meeting.

Mr. Spokes asked how many members of the local Committee at Cardiff were members of the Association.

The Hon. Secretary said that he was informed that some were not members of the British Dental Association, but how many he could not say.

Mr. RENSHAW did not think it right to assist persons who were not members of the Association.

Mr. TOMES agreed with Mr. Cunningham that the question should have wider publicity. If the motion were not brought forward it might be thought to have been refused on inadequate grounds.

Mr. B. NEALE proposed as an amendment that the further consideration of the matter be adjourned until some of the gentlemen from the Western Counties Branch were present to explain what they meant.

Mr. REDMAN seconded.

A MEMBER suggested that the matter should be referred to the General Meeting without any special recommendation from the Board.

The amendment was put and negatived, and the motion for submitting the matter to the Annual General Meeting was adopted.

PROSECUTIONS AND CONVICTIONS.

The PRESIDENT said the following notice of motion had been given him by Mr. T. Gill Williams, "That a return of the prosecutions with convictions be printed and circulated amongst the members with the *Transactions* of the Association."

The HONORARY SECRETARY said that Mr. Gill Williams was probably unaware that the *Transactions* of the Association have been discontinued. He had sent to that gentleman a list of prosecutions and convictions that had taken place since the establishment of the Association.

Mr. SMITH TURNER said he believed the cases were always reported in the Journal.

Mr. TOMES thought the motion was very vague. He did not understond what was meant by "prosecutions with convictions." To reprint prosecutions and convictions with any degree of fulness would entail unnecessary expense, for they could all be found by anyone who would look for them in the Journal. But if only an index were wanted it might possibly be given.

The HONORARY SECRETARY said he had made for his own use an index of cases up to the present date.

Mr. CUNNINGHAM thought there could be no harm in giving the members that information which the Honorary Secretary had prepared and had found useful to himself. It would be attended with very slight expense.

Mr. Smith Turner proposed that a list be prepared, and an intimation given in the Journal that members could have it on application.

Mr. Tomes seconded the proposal, which was agreed to.

Election of Members.

The following gentlemen were unanimously elected members of the Association:—Wm. Benjamin Bailey, Hugh Love, Ferdinand Silvers, Murray Thomson, James Copland Clarkson, Horace William Johnson (London); Clifford Gibbons (Brighton); John Kyle Mackintosh (Inverness, N.B.).

The General Meeting.

The general meeting was held in the theatre, the chair being taken by Mr. Bowman MacLeod.

Proceedings commenced by the retiring President reading his Valedictory Address,* at the conclusion of which he vacated the chair in favour of the new President, Mr. F. Canton, who then delivered his Inaugural Address.†

Mr. Mummery, in moving a vote of thanks to the retiring President, said: It is my pleasant duty to propose a vote of thanks to Mr. Bowman MacLeod, our retiring President, and I think every honour is due to him for the excellent way in which he has fulfilled the duties of the chair. We all remember the very admirable arrangements he made at Edinburgh for our comfort, and the noble way in which we were entertained. Of our President's geniality and kindness there is no need to speak, for we have all experienced it for many years. But I think no vote of thanks to Mr. MacLeod would be complete did it not include the name of Mrs. Bowman MacLeod, to whom the social success of the meeting was so largely due. I beg to propose a hearty vote of thanks to Mr. and Mrs. Bowman MacLeod.

Mr. Breward Neale: I rise to second the vote of thanks to Mr. and Mrs. MacLeod. I am sure no words of mine are necessary to recommend the motion to the members, especially to those who were fortunate enough to be in Edinburgh, and who remember the hospitable way in which they were there received.

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* Printed as an Original Communication.

† Printed in the August issue.

The motion was carried by acclamation.

Mr. TOMES: I rise to propose a vote of thanks to Mr. Canton for his address. Mr. Canton has his own views as to the way in which it should be done. He has sent me a brief but emphatic message that he did not wish to be "buttered." It is of the essence of things in public meetings that one should bow to the ruling of the chair, and I therefore obey him. I must say, however, that Mr. Canton has won his spurs as President of the Representative Board, and in various other functions which he has fulfilled, that he knows the business of the Association in its every aspect. In thanking him for his address, I may also thank him in advance for the manner in which, we all feel, he will fill the presidential chair to which he has been called.

Mr. SMITH TURNER: After the remarks that have fallen from Mr. Tomes, I need only be very brief indeed in seconding this resolution. I fully endorse all that has been said by that gentleman with reference to Mr. Canton. I have worked with him for many years in the affairs of the Association, and I can bear testimony from practical experience to the truth of what Mr. Tomes has said. I am sure you will all join with me in thinking that we have listened to a very interesting and eloquent address. I hope you will accord a very hearty vote of thanks to our President for his inaugural address, and as he cannot himself put it from the chair, I will take the liberty of putting it to the meeting.

The motion was carried by acclamation.

Mr. MACLEOD: I simply rise to acknowledge your great kindness in having passed a vote of thanks to myself and Mrs. MacLeod. In her name I express sincere regret that she cannot be with you at present. She is not quite so well as she would like to be, and it was thought better that she should rusticate on the western coast of Scotland than come up and endure the heat and turmoil of the city of London. I shall have very great pleasure indeed in conveying to her this acknowledgment of any little thing she may happen to have done for the Association and its members during their visit to Edinburgh. For myself I beg to thank you very much indeed.

The President (Mr. F. Canton): I thank you very much for the vote of thanks you have been kind enough to pass, and also for your patience when listening to my address.

Treasurer's Report.

The Treasurer read the following Report:—

Mr. President and Gentlemen,—In presenting to you my report for the past year, I feel that I ought not to do so without an expression of sincere regret at being obliged to resign the office entered upon less than two years since. I have found my colleagues most kind and indulgent, and my duties in themselves interesting, and for the most part pleasant to perform, and were I a little less fully occupied in practice, and circumstances generally a little other than they are, I should certainly have clung to office. I trust, however, my worthy successors, and you, gentlemen, whose servant I have been, will not find the financial affairs of the Association to have suffered in any way at my hands. The report that I have to introduce is, I think, an altogether encouraging one.

The amount of income over expenditure is £238, or £150 more than last year, of which increase £92 belongs to the general account and £58 to the Journal, which latter has, I am delighted to say, fulfilled the hope I ventured to express in my report of last autumn, and this year paid its way, showing a surplus of £14 16s. 11d., instead of a deficit of £44 7s. 9d., which deficit, be it remembered, was itself a great improvement on former years.

The legal expenses are satisfactory, inasmuch as whilst the number of cases dealt with has been the same, the average cost has been less, and the total amount spent in law £96 less than in 1894, and this, as our hon. secretary's report, I think, fully sets forth, without any slackening of energy in fighting the battles of the Association.

Some items of expenditure, on the other hand, show an increase, notably the stationery and printing; but this has been a very variable one in past years, depending doubtless upon the coming to an end of stores and replenishing thereof. The cost of printing the Journal has likewise grown by £7, but this is due to its increased size.

The financial position of the Association at the present time, will, I think, also be satisfactory to you. Of the £800 on deposit at the bank last year, £600 have been invested in India 3½ per cent. Stock, and at the rate of purchase yield a dividend of over 2½ per cent. instead of the ½ per cent. bank rate. The remaining £200 is still on deposit, and as the balance at the bank is at present £639 11s. 5d., it may be hoped that my successor will soon be able to add to the sum invested.

During the past year we have received 58 new members, but on the other hand have lost 9 members by resignation and 15 by non-payment of subscription, so that our total numbers stand at 930, or an increase of 34, as compared with last year. Of these, 25 are in arrears for two years and 216 for one year, making a total sum due to the Association of £279 6s. This is satisfactory, as compared with last year, and leads me to a remark that will, I trust, benefit my successor in office, viz., that his labours would be greatly reduced and much expense also in printing and postages saved to the Association, if members would kindly remember to pay their subscriptions promptly at the beginning of the year, instead of requiring a first, second and third application, as so many of them do.

Mr. J. C. Storey: I have much pleasure in moving the adoption of this very satisfactory Report. It needs no words of mine to commend it to you. It is a great advantage to have the £600 profitably invested. Altogether the Report seems to me to be an exceedingly favourable one.

Mr. Lawrence Read seconded the motion, which was agreed to.

Secretary's Report.

The Hon. Secretary (Mr. W. B. Paterson) read the following Report:—

Mr. President and Gentlemen,—Whatever interest is to be found in this, the Sixteenth Annual Report of the Hon. Secretary of the British Dental Association, will have to be found in the nature of what is reported rather than in the extent of the details.

The general features of the work of the year are of the usual character. There have been about the average number of meetings, viz., eight of the Business Committee and four of the Representative Board; while the sub-Committees have received their due share of attention.

The prosecutions, having for their object the maintenance of the spirit and provisions of the Dentists Act, have been five in number, and in each instance it is satisfactory to note that they have been successful.

The outcome of all these cases may not in each have appeared to have been equally satisfactory. For example, in the Dundee case of Davie *v.* the British Dental Association, as all readers of the Journal must have noticed, both the sheriff, who presided as judge, and the local press, did their utmost to minimise the otherwise wholesome influence of the law which our prosecutions had so successfully vindicated. On the other hand, it is to be noted that the local press admitted certain correspondence, notably a letter from Mr. C. S.

Tomes, which must have had reasonable weight with the thinking portion of the community.

The cases, like Hamer's, of Burnley, in which men call themselves "dentists," are now, in the reading of our Act, almost self-convicting; and as the Courts become more and more familiar with our Act, so will convictions become more certain.

In the two Cardiff cases of Shellard and White we obtained a conviction in each instance, and in the face of the unfortunate failures of the Medical Defence Union, before the same Court, in maintaining the force of the Medical Act, I think we may be allowed to congratulate ourselves on our success. Still, the failure of others can in no manner be made a matter for congratulation; rather should it show us the necessity of caution and preparation for disaster even when most successful. The Medical Defence Union is in every respect a stronger and wealthier body than the British Dental Association, and yet, as before mentioned, not only has it been less successful in its prosecutions, but has had publicly to admit that it has undertaken a task beyond its powers.

The last case to mention is that of Flax of Eastbourne. This case is chiefly remarkable by reason of the vigorous and ingenious defence that was made by the counsel for the defendant. The result, however, was in every respect favourable to the prosecution.

The position of the plaintiff was, briefly, that Flax, not being registered under the Dentists Act, and not being a legally qualified medical practitioner, did unlawfully take or use an addition, title, or description, implying that he was registered under the said Act, viz., D.D.S.

The finding of the Court was that the offence had been clearly made out, and the defendant was mulcted in a penalty and costs.

Several cases have been brought under the notice of the Business Committee, and of your Honorary Secretary, in which members of the Western Counties Branch of the British Dental Association and others, as in the cases of Joll and Abel, of Cardiff, and of private individuals, as in the cases reported in the Journal of Messrs. Matland, have undertaken prosecutions and sought the advice of the Association. In each instance advice has been unreservedly given, and it is pleasing to reflect that the results have been satisfactory.

In the two somewhat notorious cases of the "Strand Barbers" and "Regina *v.* Priestley," both instances of prosecutions by the Treasury, the interests of the Association were watched by counsel. On neither occasion did anything arise calling for intervention on our part, but the failure of the latter case and the exposition of the law made by Mr. Justice Wright, called forth a leader from the *Times* which, combined with a previous leader on the Indian oculist's case, will undoubtedly prove most invaluable whenever legislative action may be taken to correct the glaring anomalies which at present characterise medical and dental laws so far as the protection of the public is concerned. While on the subject of legislation, it may be mentioned that representatives of the Association have been acting in conjunction with similar representatives of the British Medical Association, the Pharmaceutical Society, the Apothecaries' Company, and the Royal College of Veterinary Surgeons, in their endeavour to obtain certain modifications of the Companies' Act, in order to correct existing abuses which render more or less nugatory all existing medical legislation for the protection of the public.

In the report of last year it is intimated that the question of "covering" would receive immediate attention, and it is characteristic of the difficulties which beset such an enterprise that what appeared to us a complete and undeniable instance of disregard of the pronouncement of the General Medical Council should still be unfinished. The case we presented, however, has virtually been decided in our favour, and the defendant has been summoned to appear before the Council at its next meeting.

The question of direct dental representation on the Medical Council has not, and, indeed, cannot be, lost sight of until we have obtained it. Your executive, prompted by this conviction, have been industriously seeking every opportunity of forwarding this most desirable object. We are not in a position now to speak of success, but we may point out as evidence that the question is coming very much within the sphere of practical discussion, that several of the medical candidates for direct representation, at the election to be held in November next, have made the representation of dentists a prominent feature in their electioneering addresses.

The vexed question of dental advertising has been brought very fully before the Representative Board, and has occupied the major part of two of its meetings. The result of prolonged discussion is, that the Board has decided that the present moment is inopportune for pressing the question upon the attention of the Medical Council.

The number of cases which have occupied the attention of the Business Committee and Representative Board, in addition to the foregoing, have been sixteen, and from these the cases already mentioned were selected as cases in which legal action might be taken.

The alterations of Bye-laws 15 and 18 have engaged careful consideration of the Branch Councils and Representative Board, and the results have been already reported in the Journal, and the whole question will come before you for discussion.

By the efflux of time the office of President of the Representative Board became vacant in April last, and as Mr. Hutchinson, though with great regret, felt himself unable to accede to the unanimous desire of the Board that he should continue to occupy the office for a further period of three years, the Board proceeded to elect a successor in the person of Mr. Howard Mummery.

The remaining business that has engaged the attention of the Representative Board and Business Committee has been of the ordinary routine character, and requires no special mention in this report.

The last business which has occupied the attention of your executive has been the arrangements for our present meeting, and the special point of interest to which I will allude is the grant made by the Royal College of Surgeons of England of the use of their College building and the famous Hunterian Museum.

This is, I believe, the first occasion on which this concession has been made to any similar association; and although the gift is altogether too great for our acceptance, we have utilised such portions of it as we hope will conduce to the comfort of our guests and members this evening. The whole Association is to be congratulated on this generous recognition of its professional status by the most eminent surgical corporation in the world, and the first to recognise the necessities of dental education, and to make very material sacrifice for its promotion.

W. B. Paterson.

Mr. Brunton: I beg to move that the Report which has just been read by the Hon. Secretary be adopted.

Mr. J. Lee Rymer, J.P., seconded the motion.

Mr. Blandy: I should like to make one or two remarks with reference to this Report, more especially with regard to the following paragraph: "The vexed question of dental advertising has been brought very fully before the Representative Board and has occupied the major part of two of its meetings. The result of prolonged discussion is that the Board has decided that the present moment is inopportune for pressing it upon the attention of the Medical Council." I should like to draw attention to the fact that at one of the meetings of the Representative Board it was proposed that legal opinion should be taken as to the powers of the General Medical Council to enforce its decision. That was somewhat a peculiar motion, seeing that it was for the General Medical Council to decide on the legality of its own proceedings; but I, who suggested that the Association should take proceedings against advertisers, thought, with my seconder, Mr. Murray, of Dublin, who I regret is not here, that we could not do better than accede to Dr. Walker's proposition and accept the Resolution that legal opinion be taken. Mr. Smith Turner said that the opinions of the learned judges, which I quoted in my paper, were opinions of not much count. We therefore had them reviewed by Mr. Muir McKenzie, Q.C., and Mr. R. W. Turner, Mr. Turner's son, and a barrister of some repute. When their legal opinion was read at the subsequent meeting it thoroughly established the position that I had taken up from the first, viz., that the General Medical Council had full power to deal with the names on its Register, and no Court of Appeal could interfere with its decision, if it had sufficient evidence to act upon and that evidence was produced without malice. The Resolution to obtain legal opinion was carried by a majority of something like twenty-five to one. At the next meeting good cases were produced to go upon, which had been prepared with great care. Cases had been called for by Sir Dyce Duckworth at a public dinner; he only asked for cases to be submitted. At the next meeting the Representative Board went back upon its decision asking for legal opinion, and refused to present cases.

The PRESIDENT: I must correct you there. The meeting did not go back upon its decision.

Mr. BLANDY: It refused to go on. Where did the Board go to? If it did not go back, it stood still. I was observing that this Representative Board of the British Dental Association, upon which I was put to carry out this work of combating Dental Advertising, has failed to carry it out. With money in hand to the extent of some £1,200 we have the sinews of war, and we ought to defend and maintain our Act and the interests of the dental profession. I was put upon that Representative Board by your favour, gentlemen, because I had taken up this advertising question from so early a date as the Birmingham meeting. I prepared a paper, as you will remember, for that meeting to introduce the subject; but it was laid aside till the fag end of the meeting, and I was asked to have it taken as read. I refused to have it taken as read, and produced it at our own Midland Branch at Southport. I have gone on with it since, and I have succeeded in getting the support of the whole of the General Medical Council, who passed certain monitory resolutions. I am unwilling to produce a split in this Society. We have a splendid Association, numbering 930 members, and we have £1,200 at our command; but if we leave this Society, and allow these gentlemen to manage it in this *laissez-faire* style, we shall sacrifice that £1,200, and that is a consideration. But we are not to be stopped in this effort for dental reform. I take it that every one of us is anxious to promote the interests of our brother dentists and our profession; we are all anxious to work for that end. But some of our friends are so extra cautious, they wish to stand still—I do not say for ever—and leave us provincials to be worried by these advertising men to the extent we are. What are we to do? Mr. Oliver, of Cardiff, has taken the bull by the horns, and has called his neighbours and friends together and formed a little Association, consisting of some twenty or thirty dentists who have each guaranteed £10. They have gone on prosecuting their own cases, and they have the nucleus of a National Defence Union there. I hope that this large and important meeting will show the Representative Board that they mean to have a more vigorous policy carried out. I have been attacked at the Representative Board meeting this morning for a letter I wrote in the Journal, explanatory of the vote of the Representative Board at its last meeting. Mr. Rees-Price, who took an interest—a mistaken interest—in the matter, and proposed my name on the part of the Scottish Branch for election on the Representative Board, led the van. He evidently thought if I were on the Board it would close my mouth, and that I should be overawed. In this hope he must be disappointed. I did not want to go on the Board, but I was nominated without my knowledge or consent. I had refused to be nominated by my own Midland Branch, where I am better known.

Well, gentlemen, I am a representative, I take it, of those members of the Association who were good enough to send me to that Board, and I take it that my letters to the Journal signed by me are not under-handed in any way, but that they are open and above board. We have a Publishing Committee to supervise matters, and if there is anything offensive it could have been struck out or refused admission altogether. I felt it my duty to make known the position of things. There was no report of that meeting in the Journal. There had been a report of former meetings, but there was no report before the members of this Association, recording the proceedings of that meeting and showing the former resolution had been burked and made inoperative. Mr.

Murray, Mr. Corbett and Dr. Baker, thought it unnecessary to come over again from Dublin to support me. We had no suspicion that the Board would so far stultify itself as to go to the cost of legal opinion of its own selection and then throw it in the fire. I felt it was my duty to make that known. If you, gentlemen, at this meeting think that I exceeded my duty in any way on the Representative Board, I am perfectly willing to resign my seat at any moment. I do not think it is any use my bringing forward this resolution again—I certainly shall not do it myself at the Representative Board. I have brought it forward twice, and it has been refused each time. If you feel that I ought to resign my seat on the Board I am perfectly willing to do so. I hope I have spoken without any personal animosity. I certainly feel none against any gentleman in the Association. I believe we are all working for the same end, and I think it is our duty to speak out that which is in our minds. It is far better to speak out than to have any smouldering dislike or intrigues, or anything of the sort. If you refuse this absolutely, I and others who are with me will do our uttermost to bring this question of advertising before the General Medical Council. If they will not have anything to do with it, then there is an end of it. But we are going to the General Medical Council, and if this Board will not aid us, they have only to say so, and there is an end of the matter so far as this Association is concerned.

Mr. Smith Turner: I do not intend to enter into this discussion, but I should like to ask Mr. Blandy one question. He has associated his proceedings in the matter of advertising with the proceedings of the gentlemen who have joined together in Cardiff, and made certain prosecutions under the Dentists Act. I want to know where the similarity lies. I should like to know if the gentlemen of Cardiff have made one prosecution for advertising, because if they have not, Mr. Blandy's claim to the support of those gentlemen is, it seems to me, a mistake.

Mr. Quinlan: As far as we are concerned in Cardiff I think Mr. Blandy has rather mixed the two things. We have not interfered in the least with advertising; we have simply prosecuted non-registered practitioners. At the same time one can appreciate Mr. Blandy's idea.

Mr. Smith Turner: That is another matter.

Mr. Oliver: I should like to make a few remarks upon the Report. Mr. Blandy has mentioned my name in connection with the prosecutions of Cardiff, and he has stated that we have formed ourselves into a Defence Association. It might be gathered from his remarks that we were in some way a separate body or association from the British Dental Association, or opposed to it. I think you will find that the members of this Society which we have formed for the purpose of more effectually carrying out prosecutions under the Dentists Act, are amongst the most loyal members that the Association has. In proof of that I may tell you that of the twenty-two members who have joined our Society, several have already, at our instigation, joined the Association, and others are asking to be proposed. Further, I may tell you that if the Association fulfils the objects and desires of the members of the dentists in South Wales, they will all join. There is no hesitation about that; and I think you may gather from that that the same principle applies to all the dentists throughout Great Britain. If the Association makes itself notorious for neglecting the requirements, the feelings, and felt wants of the mass of dentists, you cannot expect them to attach themselves to the Association. Not that the Association has not done good work. They have done good work in the past; they have been very cautious in what they have done, and rightly so, and in every case they have been successful. But you may have an excess of caution. There is a time for all things; there is a time to be cautious, there is a time to prosecute the war in an energetic manner. We see the enemy all around us growing up like mushrooms, but the Association itself was in its constitution positively incapable of grappling with the thousands of cases that are cropping up all over Great Britain. We want that which we have instituted in South Wales—local associations in every part of the kingdom, with funds subscribed by its members who feel an interest in the matter. That is the only way by which the great evil of the unregistered practitioner can be satisfactorily dealt with. I say it advisedly, and it was from this conviction that I myself undertook to secure the combination of every reputable registered man in South Wales in the three towns of Cardiff, Newport and Swansea—with one exception—each undertaking to subscribe the sum of £10. I will read you what may be called the Articles of our Association, the grounds on which we are associated:—

"South Wales and Monmouthshire Dental Society.—We, the undersigned, for the purposes of mutual protection and benefit, undertake and agree to combine and form ourselves into an Association, to be called the South Wales and Monmouthshire Dental Society, the object of which shall be to further the interests of the dentists in this district. With this object we subscribe our names, whereby we undertake to become members of this Society, and to bear our part in the expenses necessary for carrying out the aforesaid objects to the extent of £10 each. And we further undertake to pay such portion or portions of this amount as from time to time may be necessary at the call of the Secretary for the time being."

Twenty-two practitioners of South Wales have signed this, and the result of our combination has been that in the few months we have been together we have obtained seven convictions; yesterday we obtained our seventh. And I may tell you, gentlemen, that the result has been highly satisfactory to us individually. It has brought us into very close unity. We meet together monthly at our own houses and do our business there, and after business we enjoy ourselves. The effect on the public in South Wales has also been most beneficial. It has clipped the wings of a good many practitioners, and they cannot fly so far or so fast as they could. They have to pull down their signs, and it makes a great difference to them. Three out of the seven have already left the place. They have been very much discredited in the eyes of the public by what we have done. We have not been accused of "persecuting these poor men who are trying to get a living." These men are not to be pitied; they are not benefactors of the public. We are conservators of the Dentists Act, an Act that has been brought forward so energetically and self-denyingly by so many of the men whom we reverence and honour; and I say we ought to maintain it in its integrity. That is the fault I find with the British Dental Association, that they have funds at their disposal, but do not use them for this purpose. I might go on further upon this question. It is one that we all ought to take part in. The *raison d'être* of the existence of the Association is the prosecution of these men and the protection of the Dentists Act. Let them undertake those duties and perform them manfully and with courage, and then I am sure there will be no association in the kingdom so strong as the British Dental Association. As to funds, they will be forthcoming. The £10 I have mentioned is only a subscription until more is wanted. Say there are 5,000 members in our profession; at £10 each, that means £50,000. What is that compared with the hundreds of thousands taken out of their pockets every year by these unregistered men? I say it is a matter of duty—a very serious matter of duty—and we consider it as such. A resolution was sent up the other day from the Western Counties Branch recommending that this Association should assist and encourage the formation of these local centres throughout the kingdom. That is a resolution which this Association should act upon, and take some decisive steps in regard to it. Are you going to accept the recommendation of the Western Counties Association?

The PRESIDENT: That question is not now before us.

Mr. OLIVER: In that case I think I have said enough and I will sit down.

Mr. MAITLAND: Shall I be in order in asking the honourable member who has just sat down if we are to take him seriously when he says that the action of the South Wales Society was taken solely for their own protection and benefit?

Mr. C. WEST: I should like to ask if any member of the Representative Board can explain to the meeting why the consideration of the question of advertising has been withdrawn? I have every confidence in the Representative Board, but I think there are some members present who are a little in doubt as to the wisdom of this paragraph which Mr. Blandy has referred to. If it is expedient that an explanation should be given I think it would be acceptable.

The PRESIDENT: With regard to this question which was given notice of and properly discussed by the Representative Board, I may say that the Board passed a resolution that has been reported to you. It was done after discussion. The first resolution was that the matter should be referred to the solicitors and to Counsel for certain opinions, and that was carried by a large majority. The matter then came back to the Board, and there was then an entirely different point, viz., whether the question of advertising should be brought before the General Medical Council or not. From the views expressed and the knowledge brought to bear upon the subject at that the second meeting, it was generally thought that it would be unadvisable to do so at present. I do not see what more you could do. The Board has discussed the matter thoroughly. Of course it can be brought again before the Board at another time, or by notice of motion ; it can be brought up here for discussion.

Mr. West : You are not in a position to state the grounds upon which the decision was arrived at ?

Mr. Coxon : I think it would be most satisfactory to the members if the actual reasons were stated for what was done. With all deference to the Chairman I think we are all entitled, as members of the Association, to understand why this important question was put on one side at this Board meeting.

Mr. Smith Turner : It seems a very strange position in which to place the Representative Board. If you have no confidence in them, by all means turn them out ; but if you appoint a Representative Board and expect them to explain the minutiæ of all their proceedings, I, for one, shall not keep on that Board. The proceedings of the Board are not published in detail, and I think it would not be expedient that they should be. Many things are done there that it would not be expedient to publish. There are questions connected with advertising which it would be sheer folly to discuss in public. Indeed, there are questions coming before the Representative Board which we dare not discuss in public. Are we, as members of the Representative Board, to stultify ourselves and give a wrong impression, or to lay ourselves open to actions for slander ? The whole thing is an anomaly. If you do not trust your representatives, by all means turn them out. I am perfectly ready to go. I should be sorry to trouble this meeting or any other meeting with a grievance, simply because I could not carry my opinions on the Representative Board. I state my opinion, and if it is not carried, I should be foolish if I came here to ventilate it as a grievance and say that the Representative Board would not do so and so. If I did so I should not be fit to be on the Representative Board ; I should be lacking in respect to my colleagues if I did such a thing, and should be placing those who supported me in a false position.

Mr. Coxon: The question was whether the Representative Board has any objection to state why the matter was shelved at this moment. I think that Mr. Turner is going beyond the subject. I do not think it ought to be regarded as a personal question. These gentlemen are representatives of the Association, and we are asking them to tell us why they have acted as they have done. If they do not think it expedient, it is done with; let them say so one way or the other and then it will be satisfactory. I know there are reasons why Representative Boards cannot always state the grounds for their action, because questions of libel might arise. That is a thing I can quite understand. But at this time I am asking if you can tell us why this thing has been shelved.

Mr. Cunningham: As one of the supporters of the question at the Board, and having been out-voted, I should like to say a word. There are, no doubt, occasions when the proceedings of the Representative Board should not be made known, but I think on the other hand there are many occasions when we might have reporters present. I think our Association ought to know more of what is going on. I think, too, that they ought to have the names of the voters given, so that the members could see how their representatives voted. They would then have the remedy in their own hands, and when they wanted to alter the constitution of the Board they would know how to do it; they could place on the Board more gentlemen who are advocates of this question so as to give that side a majority. On this occasion, however, I support the Hon. Secretary's Report, because I think it is unfair to ask questions from the authorities which they cannot do justice to, either on the one side or the other.

The motion for the adoption of the Report was then put and carried.

The President: Perhaps I may be allowed to make one remark. I am quite certain that any members of the Board present would be happy to give any gentleman, privately, any information he might desire, but at a public meeting like this I do not think it can be done.

1897 Meeting.

The President: The next question is that of the Annual Meeting of 1897. We have had a very cordial invitation from the Irish Branch to meet in Dublin next year, and it has been recommended that Dr. Theodore Stack be the President, and that the Meeting be held in August, the precise date to be fixed by the Board later on. I think in order to save time that these three matters can be taken together. I do not know whether Dr. Stack or Mr. Corbett would like to make any remarks on the subject.

Mr. Corbett : I have only to say that if our invitation is accepted we shall do our best to entertain you hospitably and well in our little city. Of course we cannot expect to rival the meetings held here and elsewhere, but if you find us wanting in some of our duties I hope you will take the will for the deed, and give us credit for doing the best we could. I am sure that some of you will go away satisfied with the result.

Mr. Andrews : I have much pleasure in seconding the proposal that the invitation should be received. The motion was put and agreed to.

Dr. Stack : Gentlemen, I feel very much your kindness in electing me as President for the next year. I am glad to see that there is a good representation here from Ireland, and I am sure that all of them as well as myself will give you as hearty a welcome as we can.

Representative Board.

The President : I am glad to be able to announce that as the result of the ballot for ten members of the Representative Board the following gentlemen have been elected :—Messrs. L. Matheson, Storer Bennett, W. E. Harding, R. P. Lennox, G. Cunningham, D. Corbett, T. Gaddes, Dr. J. Walker, Messrs. F. W. Richards and W. Helyar.

Schools Committee.

The Sixth Report of the Schools Committee on the Condition of the Teeth of Children was read.*

The following resolution, recommended by the Representative Board, was also read :—" That the British Dental Association regrets that there is no mention of teeth or dentistry in the recent report of the Departmental Committee of the Local Government Board on Poor Law

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* To be printed in a future issue.

Schools, although its attention has been called to the matter by statistics, and by the evidence of the Local Government Board Inspector; that this Association is strongly of opinion that the importance of the care of children's teeth, especially those of the wage-earning classes and the poor, should receive immediate attention by the Boards of Guardians and other authorities, and further, that all such school dental appointments should be made upon similar lines to those regulating medical appointments, and therefore subject to the inspection of the Local Government Board."

The PRESIDENT: The Representative Board have adopted that resolution, and if it is desired to take the Report and the resolution together, I see no objection to it because there is nothing contentious in it.

Mr. SMITH TURNER: It is rather difficult to differentiate between a resolution and a Report. This resolution no doubt expresses the desire of the Committee, but if I propose first the adoption of the Report, I can then propose more freely this resolution.

The PRESIDENT: Perhaps that course will simplify matters.

Mr. SMITH TURNER: Although the Report is not satisfactory in every way, to my mind it is a very satisfactory report. It shows that the matter is going on slowly but surely. The system that members now appear to adopt is to do things by rushes. I should like to remind them that it was something like twenty years before the Dentists Act was matured. There were many attempts to rush the thing, but they all failed. That is not the way to make sure progress. "The voice was not in the lightning, the voice was not in the thunder, the voice was not in the whirlwind, but it was a still small voice." If we work together as the School Committee works, we shall have good results. This report is to me extremely encouraging, and I hope you will adopt it unanimously.

Mr. REDMAN seconded the adoption of the report.

Mr. J. C. STOREY: I should like to mention what may be a danger in this work. More is done than is shown, as many of us know, in our provincial towns. I may perhaps be permitted to mention this fact as an illustration. In my own town there are two Boards of Guardians, and in both places this matter has been suddenly sprung upon them, and they have elected honorary dentists, who have undertaken to do the duties without fee or reward, and without any regulations as to the amount of work they shall do. I am sure that it is far from the intention of the Association or the Committee that this sort of thing should go on. We have done some little in this matter which may be suggestive to members. Mr. Spokes has kindly placed in my hands a copy of the chart he uses, on which particulars are recorded. This has been shown to the Local Government Board Inspector, who approves of it, and at one of the workhouses this will be placed in the hands of the honorary dentist to keep an exact record of all the operations done. If in other towns honorary dentists are appointed for the sake of the glory of the thing, I think it may be met in this manner. I think that locally members may take action to prevent these *honorary* appointments. I have much pleasure in supporting the adoption of the report and am gratified with the amount of progress that has been made.

Mr. OLIVER: The question of the children of the masses having their teeth attended to while young, is, I think, a question of national importance, and I think that this Association, representative as it is of all that is best of the dental profession, should utilise its influence and bring to bear upon the authorities the importance of this thing nationally. I should like to know what powers the Boards of Guardians have as regards the payment of the dental practitioners who attend these schools. If they have no power to pay the dentists, machinery should be brought to bear so that appointments should become general. As far as I have had the question of fees placed before me, they are quite adequate to do effectively the work which requires to be done. I think that all school children should have their teeth regularly seen to three times a year, not merely to have their teeth extracted, but to have them as thoroughly attended to as in the case of patients that come under our care in private practice. I have the pleasure of attending one Institution of the kind, and it carried out all my theory as to the value of these periodical attendances on a large scale. I should be glad to know if these Boards of Guardians have power to grant money for such a purpose.

Mr. MAITLAND: They have power to make a representation which may be accepted or refused.

Mr. Headridge: I am thoroughly satisfied with the remarks that have been made on the subject, but I think myself it should apply only to Boards of Guardians. I do not know that we are able to go into the question of other schools and demand that attention should be given to children's teeth, but in the case of Boards of Guardians I am aware that there are a large number of children to be considered. I have been a representative on these Boards, and that is why I rise to speak. There are a very large number of children who are entirely without a dentist, and I have several times felt it desirable that something should be done in this direction. They have only the ordinary surgeon, and their teeth are pulled out in the most clumsy fashion. As you are aware, I come from Manchester, and I can tell you that the Withington Board of Guardians have over 2,000 persons under their care, and a large percentage of them are children, and it is an important step for this Institution to make an effort to have them superintended by practical dentists. There is no provision at present made.

The motion for the adoption of the report was carried.

Mr. Smith Turner: I now move the adoption of the resolution following the report. I am sorry that not more attention was given to it when it was read by Mr. Cunningham. It is divided into three parts: the regret of the Association at certain circumstances; the opinion of the Association, and the manner in which it thinks that certain appointments should be made. These three involve and anticipate, I think, the bulk of the remarks that have been made on the report. The first paragraph is "That the British Dental Association regrets that there is no mention made of dentistry in the report of the Departmental Committee of the Local Government Board on poor law schools, although its attention has been called to the matter by statistics and by evidence of the Local Government Board Inspector"; the second "That this Association is strongly of opinion that the importance of the care of children's teeth, especially those of the wage-earning classes and the poor, should receive immediate attention by the Boards of Guardians and other authorities"; the third "That all such school appointments should be made upon similar lines to those regulating medical appointments and therefore subject to the inspection of the Local Government Board." These three paragraphs, as I said, embrace most of what has been said by the speakers. I hope, therefore, that without further discussion the meeting will see its way to adopt this Resolution.

Mr. DENNANT: I beg very heartily to second the Resolution.

Mr. SPOKES: At the Meeting of the Representative Board we had the same thing before us. I will not detain you by dwelling upon it. I will simply say that I am glad to have the opportunity of supporting this Resolution. It is one that I do not think any of us can find fault with. Each paragraph of it is important, especially, I think, the third. There are other circumstances which, if time permitted, I might have mentioned as showing why the Resolution is brought forward, and as to how it came into existence. If this Resolution is passed, I can assure you that it may be of great good in a quarter where we earnestly wish some support.

The Resolution was unanimously adopted.

BYE-LAWS.

The PRESIDENT: The next thing is that of the Bye-laws. You have had all the alterations printed in full in the programme, and it may facilitate matters if you take them as read.

Mr. CUNNINGHAM: I move that we now adjourn.

A MEMBER seconded the motion.

The PRESIDENT: What objection is there to taking the business now?

Mr. OLIVER: I move as an amendment that we go on.

Mr. CUNNINGHAM: There is no necessity for an amendment. You can refuse my motion to adjourn, and that will settle the question.

The PRESIDENT: Mr. Cunningham's proposal is that we defer this business to Friday afternoon's meeting. We must take a vote upon that.

Mr. Cunningham's motion was put and carried.

The meeting then adjourned.

Wednesday Afternoon.

Mr. F. CANTON (President) in the Chair.

A paper was read on "Some Experiments in Bridge Work" (illustrated with lantern illustrations) by Mr. G. Cunningham.* Mr. Sidney Spokes also contributed a paper entitled " Notes on Fracture and Hypoplasia."*

Wednesday Evening.

Reception at the Royal College of Surgeons.

In the evening a reception was given by the President of the Association and Mrs. Canton at the Royal College of Surgeons, the use of the building having been generously granted by the Council of the College. In the library there was an exhibition of the Hunterian relics and other objects of interest, while in the museum Hunter's celebrated specimens exhibiting " transplantation of teeth " attracted a large amount of interest. Music was dispensed by Mr. H. Delma's string orchestra and Mr. H. Schartau's quartette party, and in addition an exhibition of the " Theatregraphe " was given at intervals in the theatre by Mr. R. W. Paul.

Thursday, August 13.

The Benevolent Fund.

The Annual Meeting of the Benevolent Fund was held on Thursday morning, August 13, in the Council Chamber of the Examination Hall, Mr. F. Canton, President of the Association, in the chair.

The Secretary (Mr. John Ackery) read the minutes of the last annual meeting, which were signed as correct.

The Treasurer (Mr. A. Woodhouse) read the following Report for the year 1895.

Gentlemen,—Appended to this you will find the Balance Sheet of the Benevolent Fund of the British Dental Association for 1895, by which you will see that, on the whole, our progress has been satisfactory, though in some respects I could have wished that it had been better.

The gross income is greater than in the previous year by £60 14s. 8d., and this is due to the larger number of the annual subscriptions, the most healthy form of income, 78 being added to those who thus help.

Our donations have, however, fallen off by £2 8s. 4d., those from

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* To be published in a future issue.

The Benevolent Fund of the British Dental Association.

INCOME AND EXPENDITURE FOR THE YEAR ENDED DECEMBER 31, 1895.

Expenses.

	£	s.	d.	£	s.	d.
To Benevolent Allowances:						
Payments for 1894	35	17	8			
,, 1895	368	12	6			
,, 1896	1	4	0			
				405	14	2
,, Stationery and Printing... ...				22	1	10
,, Postages and Sundries				8	3	6
				435	19	6
,, Surplus Balance—carried down				71	12	4
				£507	11	10

Receipts.

	£	s.	d.	£	s.	d.
By Donations and Collections ...				77	10	10
,, Subscriptions for 1894	15	4	6			
,, ,, 1895	375	7	6			
,, ,, 1896	5	5	0			
				395	17	0
,, Interest on Consols				34	4	0
				£507	11	10

BALANCE SHEET, 1ST JANUARY, 1896.

Liabilities.

	£	s.	d.
To Accumulated Funds:			
Balance from last account	1,469	11	5
Surplus on year brought down	71	12	4
	£1,541	3	9

Assets.

	£	s.	d.
By Investment in Consols	1,306	13	3
,, Cash at Bank of England, Western Branch ...	204	10	6
,, Cash in hands of Honorary Secretary ...	30	0	0
	£1,541	3	9

April 23*rd*, 1896.—We have written up the above Accounts from the Books and Vouchers of the Benevolent Fund of the British Dental Association, and certify them to be correct. We have also seen the Certificates for the amount invested.

(Signed) J. W. BUTCHER & CO., *Chartered Accountants*, 18, *Bishops Road*, *W.*
STORER BENNETT.
CLAUDIUS J. ASH. *Hon. Auditors.*
CORNELIUS ROBBINS.

the branches of the past year being less than in 1894 by £26 7s. 6d. This is a cause of great regret, and I would urge the secretaries of the branches to be more diligent in employing this easy mode of raising funds in the future.

The benevolent allowances were greater by £36 16s. 10d. than in the year before, and were bestowed by your Committee after most careful consideration of each case, and no doubt you will have the pleasure of hearing from the Hon. Secretary some details of them, which must be a great satisfaction to you, as showing what substantial and lasting good has resulted from your generosity, both to the infirm and unfortunate members of our profession and to their children, who in many instances have been by your aid educated and started in life in a manner which would have been impossible without it.

We have not been able to invest any further money as yet ; we hoped that it might have been possible, but some very urgent cases were brought before your Committee which needed considerable help, so they were assisted and the investment postponed.

I trust, Gentlemen, that the above Report may be satisfactory to you, and that you will continue to show your confidence in the management of your kind gifts by increasing your interest in the Benevolent Fund, and by your efforts to augment its income and power of doing good.

I am, Gentlemen, yours very faithfully,
A. WOODHOUSE, *Treasurer.*

Mr. S. LEE RYMER : I think on the whole the Treasurer's Report is a most satisfactory one, and I can bear personal testimony to the care and attention that has been given to each case by the Treasurer, who is Chairman of the Committee, and by Mr. Ackery. Our Secretary spares no pains, and he does not know what trouble is with regard to investigating these cases. It is most important that the subscriptions of the benevolent members of our profession should be carefully administered, as they most certainly are, with signal benefit to the recipients, and in a most delicate and considerate manner. I have great pleasure in moving the adoption of the Treasurer's Report.

Mr. W. B. BACON seconded the motion, which was agreed to.

The SECRETARY read the following Report of the Managing Committee for the twelve months ending June 30, 1896.

GENTLEMEN,—Your Committee beg to submit to the subscribers and contributors to the Benevolent Fund their Thirteenth Report, viz., from June, 1895, to June, 1896. A List of Subscribers, together with this and the Treasurer's Report and Balance-Sheet, has been prepared and circulated to all contributors, and further copies will be circulated amongst non-subscribers, with a view to acquainting them of the good work being done by the Fund, and it is hoped that this may result in an increased annual support.

The Treasurer's Report, which deals with the financial year ending December, 1895, tells of a gross increase in income of over £60, and up to the present time that increase has been more than sustained. In accordance with a scheme suggested at the last Annual Meeting, an attempt has been made to further increase the number of annual subscribers. The secretaries of each Branch of the British Dental Association have most willingly consented to act as *local representatives*, and the Councils of the Branches have been requested to nominate and authorise such other local representatives as they may deem desirable, so that the work of the Fund may be brought and kept prominently before such members of the Branches as are not at present annual subscribers to the Fund. It is as yet too early to report upon the result of this action further than to say that in several instances marked energy has been shown, and the percentage of subscribers in the various Branches has in some cases been considerably increased.

The falling-off in Branch collections referred to in the Treasurer's Report may in part be accounted for by the assumption that some who had given small amounts on such occasions have now become annual subscribers, but your Committee would urge that such Branch collections should not be given up until the general percentage of annual subscribers has been more largely increased.

Of the twenty-one cases receiving help at the time of the last Report ten have passed out of hand.

Two have died.

Three children have left school and embarked on suitable occupations, in which it is hoped they will speedily be able to earn a living and be of help to their parents; *one* remaining at school is making satisfactory progress.

In *five* cases help has been discontinued, as the recipients have no present need.

In *two* cases occasional help has been given as required, and in all cases the applicants are encouraged to depend, so far as they can, on their own exertions. *Eight* cases, mostly widows, are practically annuitants, and not only require, but are very thankful for, the help afforded them, and without which their latter years would be cheerless in the extreme.

Your Committee have received a very satisfactory testimonial regarding the youth who is studying for the L.D.S. diploma, and they would take this opportunity of again acknowledging the kindness of the gentleman who gave him free pupilage, and of the

Hospital authorities in granting free dental curriculum. It is satisfactory to be able to state that the lad has made such good use of his opportunities that he has already passed one stage of his examination, and by dint of hard work at the bench, and a short *locum tenens* last autumn, he has been enabled to pay the greater part of his General Hospital and Examination fees, so that the sole expense to the Fund for such important results has been a small weekly sum granted to his mother for his support whilst being at home.

Since the last Report *eight* new applications have been received.

(1) In one case the request for help did not come from the individual in need, and no replies were received when enquiries were made direct.

(2) In this case the applicant was ineligible, being the widow of a non-registered man.

(3) A young widow without children received a grant of £5 to meet pressing needs, and has since struggled bravely for herself, and has not needed to renew her application. Husband was a member of the British Dental Association.

(4) A dentist, a late subscriber to the Fund, broken down by severe and prolonged illness, has been materially helped to meet rent and other arrears. His health is now much improved, and he is at present doing without our aid.

(5) An aged and most respected member of the profession, a late member of the British Dental Association, and an old member of the Odontological Society, was reported to your Committee as being in the deepest want. Outside help was being sought, but by the timely grant, at the rate of £25 per annum, and the generous voluntary help of a few *confrères*, further solicitations were rendered unnecessary, and adequate provision made for his declining years.

(6) In another case, two brothers (the elder a L.D.S., infirm, and failing from age, the younger paralysed and quite unable to support himself) were found in a condition of abject poverty and neglect. In this case, also, the sufferers themselves were averse to applying for aid. These received some temporary assistance, but their firm determination to try and struggle on under impossible circumstances made it impolitic for some time for your Committee to undertake any responsibility in the case. Better counsels have at length prevailed, and endeavours are being made to adequately deal with the case.

(7) A widow, aged 57, without family, whose husband, after years of suffering and ill-health, died leaving her practically without means, is being helped with a small weekly grant, which, together with what she can earn by needlework, suffices to keep her from anxiety and want.

(8) A widow, whose husband died quite suddenly, leaving her with

six young children, is receiving a weekly grant; and it is hoped eventually to get one or more of the children into orphanages.

As in former years, help has been afforded towards securing elections to orphanages, in seeking for suitable employment, and in other ways helping those who, whilst being unwilling to ask pecuniary aid, are nevertheless very thankful for advice and other assistance.

Your Committee have met five times for the transaction of business, and such meetings have been well attended, and all cases fully investigated before being decided upon. It has only been by long sittings and concentration of the work that so few calls have been made upon the time of those who often attend at great personal inconvenience and sacrifice.

Your Committee would take this opportunity of thanking the Publishing Committee of the Journal of the Association for affording space for notices and lists of new subscribers, which are frequently being inserted. The thanks of the Committee are also due to those who have so kindly aided the Hon. Sec. in the investigation of cases.

In accordance with Rule XX., this Report is now offered for your approval and acceptance; and in conclusion your Committee beg to acknowledge the kindness of Messrs. C. J. Ash, Storer Bennett, and C. Robbins in auditing the accounts, which have been examined, prepared, and certified by our able accountant, Mr. J. W. Butcher.

Mr. LAWRENCE READ: I have much pleasure in moving the adoption of the Report which has just been read. I think that both the Society and the Association may be congratulated upon having a Secretary who does his work so thoroughly. The Report speaks volumes, and it is so ample that I think no remarks by me are necessary upon it.

Mr. W. E. HARDING seconded the motion, which was agreed to.

The PRESIDENT: We now have to proceed to the election of a Honorary Treasurer. I need hardly say that the Committee strongly recommends the re-election of Mr. Woodhouse, who has so kindly given us his services in the past. I have great pleasure in putting Mr. Woodhouse's re-election from the chair.

Carried by acclamation.

The re-election of the Hon. Secretary, recommended by the Committee of Management, was also put from the chair and carried.

The President: There are now two vacancies to fill on the Committee of Management. Mr. Dennant retires under Bye-law X., and Mr. J. H. Mummery has become an *ex-officio* member of the Committee.

On the motion of Mr. Lawrence Read, seconded by Mr. Lee Rymer, Mr. Bacon and Mr. Wm. Ash were unanimously elected to fill the vacancies.

The President: The next business is the election of auditors.

Mr. Dennant: I have very great pleasure in proposing the re-election of our Auditors, Messrs. Storer Bennett, C. J. Ash, and C. Robbins. As I am retiring from the Committee I should like to say a word or two with regard to our officers. I have had ample opportunity of witnessing the way in which certain gentlemen have performed their duties. I have constantly noticed how very careful Mr. Woodhouse has been in guiding the counsels of the Committee, and how thoroughly sympathetic he has been with the distressing cases that have come before us. It is a great pleasure to find Mr. Woodhouse in such health as to be able to continue his very acceptable services.

As to our Secretary, if you only saw the way he investigates his cases, I am sure you would take some pains to increase the number of subscribers to the Fund. Everything in a Society depends upon a good Secretary, and I trust that the few remarks I have made will increase your confidence in the manner in which the work of our Fund is carried out.

Mr. Campbell seconded the motion, which was agreed to.

Mr. Rees Price: I have very much pleasure in proposing a vote of thanks to the officers of this Benevolent Fund. It requires no words of mine to emphasise what you have heard from Mr. Dennant, for he has practical experience of what has been done, and we have further evidence of it in the very satisfactory reports we have had from our Honorary Treasurer and Honorary Secretary. I have been much interested in the scheme of endeavouring to get more subscriptions by means of the Honorary Secretaries and Councils of Branches. It seems to me to be a very practicable method, and I hope next year that the Honorary Secretary will be able to tell us that the scheme has succeeded, and that those gentlemen who have consented to act as local representatives have obtained large additions to the subscriptions.

The motion was carried by acclamation.

Mr. A. J. Woodhouse: On behalf of the officers I beg to acknowledge the kind vote of thanks you have just accorded to them. Their work, I may say, is a labour of love, and so it would be to every one of those present if they could be on the committees. It is with very much pleasure that we administer to the sad cases which are brought before us. It is exceedingly satisfactory to be able to save our poor friends from the workhouse, for there would be nothing but the workhouse before them if we did not help them. We confer a great blessing also on the young children of our poorer brethren. Owing to your generosity and goodness we have been enabled to educate them almost from infancy, from 5 or 6 years old up to the time that they are able to take to business, and as we heard just now in the Report of our Secretary, they have all turned out well. I mention these few facts to you in order to encourage you to make this Fund better known, for we could spend a good deal more money, and spend it well, if we had it.

The Hon. Secretary (Mr. Ackery): I should like to make one or two short remarks. There are at least three things that are necessary to the success of a fund like this. In the first place a Secretary with his heart in his work—and in that I will give way to no one. The next thing is the support of the profession in general; and after the very kind words that have fallen from various speakers as to the little work I have had the pleasure of doing, I feel sure we have that. Thirdly, we require your financial support. That I am glad to say is distinctly on the increase, and I hope it will continue to increase so that we may have adequate funds placed at our disposal and do even more than we have yet done for those who are so much requiring our care. With regard to the scheme of local representatives I can only tell you at present that it has been most warmly taken up by all the Hon. Secretaries of Branches, and that other members have been appointed in various districts. The matter is under the consideration of the Councils of the Branches, and I feel sure the result will eventually be an awakening of local interest in a way in which it could not be affected from headquarters. In the early stages, when I took up the Secretaryship, I wrote to a great many friends in various centres and in some way increased the number of annual subscribers, but after a time I found I was powerless. There were a lot of men that I could not touch. The men we want to get at are those who do not subscribe and do not attend these meetings. They are by far the larger majority of the registered dentists. Out of about 5,000 registered dentists we have less than 400 annual subscribers to the Fund. I beg to thank you, gentlemen, for the kinds words in which you have referred to myself, and I am quite sure as far as the Officers and Committee of Management generally are concerned, they all look upon the work that comes before them as a real pleasure.

Mr. Campbell spoke in warm approval of the Local Representative scheme, and said: Every effort should be made to increase the number of *annual* subscribers. If we could get men to give their annual guinea or two guineas it would be much nobler and better than sending round the hat after dinners.

Mr. Dennant: With regard to the objection raised by Mr. Campbell, I should like to say that the sending round of the hat at the dinner is very distinctly a source of income. By that means you get in the thin end of the wedge. Men attending our meetings and dinners and hearing a few words spoken about the Fund gradually acquire a knowledge of, and interest in it, and many a man slips his two shillings or half-a-crown into the plate although he is at the same time an annual subscriber. I quite admit that all giving on a distinct principle is much nobler, as Mr. Campbell has put it, than the method suggested; but we live in a world of compromise, and we are obliged to accommodate ourselves to the condition of things, and as the Benevolent Fund is far from being too well supported, I think to give up this way of getting a good many pounds a year would be very unwise.

Mr. Rees Price: I thoroughly support Mr. Campbell in the remarks he has made. Those who know me know very well that I have always objected to these collections at the dinners, and, like Mr. Campbell, I have never given simply on principle. But of course I am quite willing to sink my own personal feeling in the matter. Perhaps, however, I may be allowed to make a suggestion. Now that this effort has been made to get more annual subscribers, I would suggest that if during the coming year it is found that this new scheme brings in a large number of subscriptions the Committee should consider whether it would not be desirable to give up the idea of subscriptions at the dinners. We may be in the minority, but there are a few of us who do object to the course that has hitherto been adopted. Upon the principle of charity it does seem to me to be a rather despicable thing, that after a man has had a good dinner he should be asked to contribute to this Fund. It is a matter of principle. I am quite aware that other men differ from me, and perhaps they are right, but as a subscriber to this Fund I presume I am entitled to express my views on the subject.

Mr. RENSHAW: Mr. Campbell has referred to the disagreeableness of the plate being sent round after dinner; I should be very sorry to see that source of revenue given up, and I am sure the members of the Midland Branch would also be disappointed if the plate were were not sent round after dinner, in order that the poor members of our profession may have a dinner also. I am very glad the members of the Midland Branch are taking up the Local Representative scheme, and although the amounts contributed are not so large as I should like to see, yet we are getting in the thin end of the wedge, and I think we shall succeed in our efforts.

Mr. SOMERVILLE-WOODIWISS: I think Mr. Campbell and those members who hold similar opinions upon this question have quite ability enough to push the matter in their own circle, without disturbing the usual routine of the larger Branches. I think it is a very good source of income indeed. There is no compulsion to contribute, and those who object to the principle need not put their money in the plate. I see no necessity for interfering with this source of revenue.

Mr. BRUNTON: I do not think the efforts of obtaining subscriptions for the Benevolent Fund should be entirely confined to our own members. Respectable men outside our Association might be asked to subscribe, and for this reason: that those who are not members of the Association receive the benefit of the Fund.

The HON. SECRETARY: I should like to say a few words on this subject. In the first place, those who have to work a concern of this sort know that nothing can be done without continual touting, and nobody hates having to beg more than

I do myself. I have expressed my own feelings privately on several occasions to various members, that I do object on principle to constant appeals being made. I do not think they ought to be necessary. The practical result is that the same men give over and over again. I took the trouble some little time ago to work out for my own satisfaction the statistics as to what those post-prandial collections of the Branches really meant. I found that there was a great difference between the Branches. The Southern Counties, for instance, send five or six collections every year. This Branch also has the largest percentage of annual subscribers. I do not mention this to the detriment of any of the other Branches, for many of them subscribe handsomely according to their means. A great many men who once in a way give small amounts on these occasions go away with the idea that they have done their duty to the Benevolent Fund. If such men would give their guinea or half-guinea at the beginning of each year there would be no occasion for continual touting. On the other hand I think it would be a very great pity if at our *annual* meetings the toast of "The Benevolent Fund," and the subsequent collection were dropped. It is not a mere sending round of the plate. Forms are issued, and there is a special provision on them for *annual* subscriptions, and it is an opportunity when men can put themselves down as annual subscribers, whereas they might not otherwise have the matter brought before their notice. The feeling that everyone must give half-a-crown or a shilling as the plate goes round ought not to exist. If a man is a subscriber he may pass the plate with a perfectly good conscience, but if he feels that he has fared so well and been in such good company that he wishes the more necessitous of the profession to share to some extent in the pleasures of life, then let him with all his heart put his name down for a donation.

Mr. Headridge: At present no subscriber of less than 10s. 6d. is entitled to vote at the meetings or have any voice in the management of the Fund. If the subscription was a little smaller, I think many more would subscribe, and the Fund receive the moral support of the bulk of the profession. I know many men who only subscribe a nominal sum at the dinners, and who think they have done their duty by giving a shilling or two to the collection.

Mr. Craig: At the Branch to which I belong, we make collections at every meeting, and the Southern Branch does the same. If you were to do away with the collection at our annual dinner you would still be accepting the four or five collections made at the Branch meetings. The dinner collection is only one of a series, and I see by the report that a large proportion of the money is collected at meetings other than dinners.

The President: I do not think we need take a vote upon this. The conversation that has been elicited will do good in more ways than one.

Mr. Rymer: I have great pleasure in proposing a hearty vote of thanks to our President for his conduct in the chair at this very important meeting of the British Dental Association. I would make one suggestion, that a hint should be given to the ladies to do all they can to assist the local representatives in getting subscriptions.

Mr. Bacon seconded the motion, which was carried by acclamation.

The President: Gentlemen, it has been a great pleasure to me to preside over such an harmonious meeting—a meeting of a Society that is doing so much good with a very small sum at its disposal. I think Mr. Rymer's suggestion is an exceedingly good one. As we have a Ladies' Committee we will see if we cannot make use of the opportunity to enlist the sympathies and services of the ladies.

General Meeting.

Mr. F. Canton (President) in the Chair.

Papers were read by Mr. A. J. Woodhouse, L.D.S.Eng., on "Reminiscences of fifty-four years in the Dental Profession";* by Mr. C. S. Tomes, "Notes on Dentinal Tubes and their relation to other Channels and Spaces in Dentine";* by Dr. R. T. Stack, on "Touch Bulbs in Dentine";* and by Dr. E. H. Angle, St. Louis, U.S.A., on the "Treatment of Certain Irregularities of the Teeth,"* the paper being illustrated by numerous lantern slides.

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* To be published in a future issue.

Thursday Afternoon.

Demonstrations.

The afternoon was devoted to the following demonstrations.* "Impression taking with Gutta-percha," by J. H. Badcock, M.R.C.S., L.R.C.P., L.D.S.Eng. "The Röntgen *x* Rays as applied to Dentistry, by means of Photography," by C. A. Clark, L.D.S.I. "On Filling Teeth with De Trey's Solila Gold," by J. Charters-Birch, L.D.S.I. "The Various Methods of Attaching the Newland-Pedley Crown," by E. C. Dimock, L.D.S.Eng. "A Small Bridge to carry a Lateral Incisor;" and also "The Morrison Crowning System," by W. M. Gabriel, M.R.C.S., L.D.S.Eng. "Filling Cervical Cavities with Gold by the help of the Herbst Needle," by W. R. Humby, L.D.S.Eng. "A Method of Repairing Bridge Work by Soldering within the Mouth," by H. Baldwin, M.R.C.S., L.D.S.Eng. "A Method of Treating absorbed, undeveloped, or perforated Roots by Sponge-grafting," by G. Brunton. "Electro-guaia-cocain-cataphoresis: its Application to Extraction, Sensitive Dentine, and Exposed Pulps," by H. B. Ezard, L.D.S.Edin. "The Chief Essentials for Success in administering Anæsthetics for Dental Operations, with special reference to the Subject of Posture," by Fredk. Hewitt, M.A., M.D.Cantab. "Plaster Impressions of the Mouth in easy and difficult cases," by W. A. Hunt, M.R.C.S., L.R.C.P.Lond. "Nerve-Extraction," by E. Preedy, L.D.S.Eng. "A method of preparing and inserting Dove-tailed Porcelain Inlays in Incisor Teeth," by F. R. Howard, L.D.S.Eng.

MICROSCOPICAL SECTION.

This section met during the afternoon, the chair being taken by Mr. C. S. Tomes, in the absence of Mr. A. S. Underwood. A full report of the proceedings will be published in the November issue.

GARDEN PARTY AT SOUTHALL.

At the invitation of the President of the Representative Board and Mrs. Mummery, a garden party was given at the Manor House, Southall, Middlesex. The guests, to the number of nearly 400, were conveyed in a special train from Paddington, and as every possible means had been taken to provide for the comfort of all, the party proved a great success, and the hearty thanks of the Association are due to Mr. and Mrs. Mummery for their kind and hospitable invitation.

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* A more detailed account of the various demonstrations will be given in the October issue.

Friday, August 14.

Demonstrations.

Demonstrations were given as follows:—"A New Electric Furnace," by Mr. C. A. Timme (Berlin). "The Büttner Crown in Conjunction with the Downie Furnace," by J. H. Badcock, M.R.C.S., L.R.C.P., L.D.S.Eng. "On Continuous-gum and Crown-and-bridge Furnaces, and a New Porcelain Crown," by J. H. Gartrell. "Putting a Porcelain Facing on a live Honeycombed Incisor," by Peter Headridge, L.D.S.I. "Porcelain Crowns, using the Downie Furnace," by Wm. Hern, M.R.C.S., L.D.S.Eng. "Fitting a Dowel Crown to a living front Tooth, working to a Model, and using, if practicable, one of Ash's New Crowns," by A. Jones, L.D.S.I., and R. P. Lennox. "Crowning, using the Downie Furnace," by W. J. May, L.D.S.Eng. "Filling Teeth with Gold, and Tin and Gold," by H. W. Norman. "Filling Posterior Interstitial Cavity in a Bicuspid with De Trey's Solila Gold, using a Matrix," by G. Northcroft, L.D.S.Eng., D.D.S.Mich. "Platinum and Porcelain Crowns," by H. Rose, L.D.S.Eng. "Crowning Front Teeth without Pins in the Root-Canal, using only Band, Porcelain Front and Downie Body at Back," by G. O. Whittaker, L.D.S.Eng. "Plastic Filling by the Aid of the Ferrule Matrix," by Geo. Cunningham, M.A. Cantab., L.D.S.Eng., D.M.D.Harv., and E. C. Dimock, L.D.S.Eng. "The Hydraulic Swager," by C. D. Grundy. "A Simple Method of making Richmond Crowns," by Vernon Knowles, L.D.S.Eng. "A Series of Preparations showing a Method of Strengthening Vulcanite Plates," by C. R. Morley, L.D.S.Eng. "Making a Furnace for Baking Porcelain," by Wm. Rushton, L.D.S.Eng.

Friday Afternoon.

F. Canton, Esq., President, in the Chair.

A Paper was read by T. E. Constant, M.R.C.S., L.R.C.P., L.D.S.Eng., entitled "The Mechanical Factor in the Eruption of the Teeth hitherto unrecognised."* Mr. H. Rose showed an interesting case of open bite.*

Alteration of bye-laws.

The President: At the Annual General Meeting held in Edinburgh, 1895, it was resolved "That Bye-laws xv. and all other Bye-laws bearing on the same question be remitted to the Representative Board for them to communicate with the Branches and invite opinions thereon, and to report at the next Annual Meeting." The Representative Board having acted upon the instructions contained in the foregoing resolution, now submits the following alterations of the Bye-laws for consideration, viz.:—

Bye-law xv. to read :—

"The Representative Board shall consist of the President, President-elect and Vice-Presidents of the Association and of at least forty members, including the President and Vice-President of the Board, the Treasurer, the Hon. Secretary, and the President and Hon. Secretary for the time being of each Branch of the Associaciation, *and of Members elected by the Branches, and Members elected by the Association*."

Bye-law xvi. to read :—

"After the Members of the Representative Board, elected by the unincorporated body called by the same name, at a meeting held on March 3, 1879, have held office for two years, *ten Members* of the Board, selected by the members of the Board, shall retire annually. The vacancies thus created shall be filled up by the members of the Association by *general ballot* from such of their number as have been nominated by not less than six Members of the Association ; such nominations must be received by the Hon. Secretary not less than 30 days before the Annual General Meeting. In addition to its representation by the President and Hon. Secretary, *each Branch shall annually elect one Member* to the Representative Board, who shall hold office for one year."

Bye-law xvii. to read :—

"In order to carry out the election of the ten Members of the Representative Board elected annually by the Association, the Hon.

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* To be published in a future issue.

Secretary shall issue voting papers to the Members of the Association as soon as possible after the nominations of candidates for election have been received, returnable ten clear days before the Annual General Meeting, and the voting papers so returned shall be examined by the President of the Representative Board in the presence of the Treasurer and Honorary Secretary, who shall have power to ask any other Member or Members of the Association to assist in counting the votes, or to take the place of an absentee, the result of the ballot to be announced at the Annual General Meeting.

"All members of the Representative Board elected either by the whole Association or by Branches, shall hold office from and after the termination of the Annual General Meeting at which their election is announced.

"All retiring representatives shall be eligible for re-election."

[*Alterations consequent upon the foregoing bye-laws as agreed to*:—

Bye-law xviii., as at present known, will be cancelled, and new Bye-law xvi. will take its place. The present Bye-laws xvi. and xvii. will become xviii. and xix. respectively.]

Mr. Blandy: I think the Branches contended that they should have the power of electing one member to the Representative Board instead of simply nominating their member. I believe that has been granted and therefore there is nothing more to be said than to thank the Representative Board for having acceded to that request. I beg to move that that be done and that the alterations be accepted.

Mr. King: I shall be happy to second that.

The alterations as reported by the Board were adopted.

The President: The next business is a resolution sent up by the Western Counties Branch, "That the Representative Board of the British Dental Association be invited by this Branch to encourage and assist in the formation of local centres for the purpose of more effectively carrying out the provisions of the Dentists Act." At the Board there happened to be no Western Counties member present, and the Board were a little undecided as to what was really meant by the resolution, and they thought the best thing they could do was to lay the resolution before this meeting for you to talk it over. I shall be glad to hear any remarks.

Mr. Hunt: I am quite sure I may be allowed to apologise for the absence of our representatives on the Board and also on this occasion. I am not prepared myself to speak on the matter, and there are many members of the Branch who are in the same predicament. If it is thought advisable to ventilate this matter for the good of the Association generally, well and good, but for the Branch in particular I have nothing to say, as I am not here as their representative.

Mr. Rees Price: As we have no representative present I think we had better drop the thing altogether.

Mr. Woodiwis: I beg to move that the motion be referred back to the Representative Board.

Mr. Husbands: I beg to second that.

Mr. Smith Turner: I do not think the Branch is altogether to blame in this matter. Certainly their representative was not present at the Representative Board meeting, and that is to be regretted, but Mr. Oliver went into the matter on our opening day very fully, and I think if we choose to tax our memories a little we need have no difficulty in knowing what the Branch meant, and what its objects are.

The resolution was carried.

Concluding Business.

Election of Treasurer.

The President: I am sorry to have to inform the members that our Treasurer, Mr. Betts, has resigned; and we therefore have to elect a successor. I am sure we all very much regret the loss, but owing to pressure of work he feels that he cannot do justice to the office.

Mr. Neale: I have much pleasure in proposing a hearty vote of thanks to Mr. Betts, on his retirement, for his very able management of our affairs. I am sure we have all felt that our interest has been well looked after by him.

Mr. Spokes: I have great pleasure in seconding this vote of thanks. I think it is due to Mr. Betts to say that whoever may follow him, I am sure will find the work of Treasurer considerably lightened owing to the manner in which Mr. Betts has fulfilled his duties. It is a great sorrow to us that we should have to part with him so soon after his election as Treasurer, but if we wish to reward him we must put a good man in his place, for it will be a satisfaction to him to know that the office is well filled.

The motion was carried by acclamation.

Mr. BETTS: I beg to thank you, gentlemen, most sincerely, for this kind expression of appreciation of my services. I should have greatly liked to remain your Treasurer much longer, but I am afraid I should not have been able to do justice to myself and others.

Mr. SMITH TURNER: I am pleased to have been called upon to propose to you the name of Mr. W. Hern as our new Treasurer. Various Committees and offices are a necessity to the carrying out of the work of the Association, and the appointments ought to be filled by London men. It is very difficult to get men to undertake these duties who will work well; but Mr. Hern is a very capable and conscientious man, and it is with great pleasure and satisfaction that I propose him as our new Treasurer.

Mr. MAITLAND: As one of the obscure members of the Association, I have much pleasure in seconding Mr. Smith Turner's proposal. Perhaps it is not inappropriate that one of the leaders should propose and one of the rank and file should second the appointment of a man to his new office.

The motion was carried unanimously.

THE DEATH OF M. PAUL DUBOIS.

The PRESIDENT: I have to inform you, gentlemen, that the President of the International Dental Congress now meeting in Nancy, has very kindly sent a telegram of congratulation and good wishes to us, and that we have sent a suitable reply.

Mr. GEO. CUNNINGHAM: I should like to ask if there was any expression of sympathy in the reply that was sent at the loss the National Society sustained in the death of their first President, M. Paul Dubois, who, it will be remembered, was at the Brighton meeting. One of the results of his visit here was that he went back to his own country with a desire to found an Association similar to our own. After some years of struggle he succeeded in doing so, and was elected President of that body. During his presidential year he was carried away by an untimely accident in the very prime of his manhood. He was the first man—if it can be the lot of one man to create a great movement—to call together the first Independent International Congress. Some of us had the opportunity of knowing him and knowing something of his work, and I think it would be a graceful act on our part (and I know it would be highly appreciated) if we sent an expression of our sympathy with our colleagues in France at the sudden removal of one of their strongest and best workers, Paul Dubois.

Mr. Coxon: As one of those who went over to the Congress in Paris, I can testify to the courtesy extended to all the members by M. Paul Dubois, and I have great pleasure in seconding Mr. Cunningham's proposition.

Agreed to (the wording of the resolution being left to the discretion of the Executive).

The following reply has since been received:—" President Dental Congress, London.—Chargé par membres Congrès Français de répondre à votre excellente dépêche vous addresse sincères remerciements pour bon souvenir à Paul Dubois.—Choquet."]

Votes of Thanks.

The following votes of thanks were then put from the chair and carried by acclamation:—To the Committee of Management of the Examination Hall; to the President and Members of the Council of the Royal College of Surgeons; to the President and Members of the Metropolitan Branch, British Dental Association, and other London members; to the Readers of Papers and Demonstrators; to the Members of the various Executive Committees, and to the Earl of Ellesmere.

The minutes of the Business Meetings were then read and confirmed and the meeting dissolved.

As the meeting began to disperse Mr. Blandy rose, and in a speech full of good feeling, thanked the "London men" for the generous way in which they had entertained the members of the Association, and Dr. Marshall of Chicago followed on behalf of the visitors who had attended the meeting. A few kinds words often convey a good deal, and such was the case with the brief speeches of Mr. Blandy and Dr. Marshall.

The Institute of Dental Technology.

At the invitation of the Principal of the Institute of Dental Technology, a large number of members inspected the workrooms at Portland Place. The feature of the education at this school is systematic technical instruction in the working of wood and metal and art work, as an introduction to applied dental technics. The system was fully explained by the Principal, his interesting remarks being profusely illustrated with specimens of the exercises executed by the pupils, not only in ordinary wood and metal work, but also including instrument making, the use of the fret saw, modelling, wood-carving, pattern making, moulding, and some really wonderful examples of repoussé and bent iron work. The subsequent progress of the pupils trained under this system was shown by a large and varied selection of well executed specimens of crown and bridge work, and various forms of removable bridge plates, the demonstrators, Mr. E. C. Dimock and Mr. Browne Thomas, explaining the methods of working. Mr. W. Flint, one of the pupils, gave an interesting demonstration of the manufacture of a gold bridge at the demonstration bench. Great interest was also shown in the equipment of the laboratory, which is certainly very complete, and the principal features of which were explained by Mr. W. Lombardi. Dr. Lapraik also gave an account of the proposed laboratory methods of teaching physics, chemistry and metallurgy, as adapted to the special requirements of the dental student.

It would be impossible at the present moment to discuss the various details of the training that the pupil is required to undergo, but we hope to do so on some other occasion, as, however much we may feel inclined to criticise some of these details, the new school is evidently an intelligent and courageous effort to remedy some of the defects of our present system, and is evidently based on sound educational principles. Meanwhile, we would advise everyone interested in the training of students in mechanical dentistry to pay a visit to this school, and so judge for themselves of the value of the methods adopted.

THE ANNUAL DINNER.

The Annual Dinner was held in the Whitehall Rooms, Hotel Métropole, Mr. F. Canton, President, in the chair.

The PRESIDENT : Gentlemen, the first toast is that of "The Queen." In asking you to drink her health, I will ask you also to drink with me that she may not only break the record of length of reign, but reign so long that it will be very difficult for anybody else to beat it.

The PRESIDENT : Gentlemen, I am sure you will regret as much as I do that Sir John Williams, Mr. Clement Lucas and Professor Victor Horsley are at the last moment unable to be present with us to-night. The first toast, as you will see, was to have been proposed by Professor Victor Horsley. In his absence Dr. Glover has, at a moment's notice, kindly undertaken to propose it.

Dr. GLOVER : Mr. President and Gentlemen,—My first duty is to express my sincere pity towards you in the circumstances we have just heard announced from the chair, and in your failing to hear Mr. Horsley's speech. It gives me the greatest pleasure—although I could have wished for longer notice of the duty—to propose the toast of "The British Dental Association." Those of us who have followed the reports in the press during the present week and those who are here to-night can have no hesitation in joining most heartily in drinking to this toast. We have seen before us the exhibition of a Society which is doing a great deal of good to the specialty in the profession which it represents, even I might say to the whole medical profession of which it is a part. This Association numbers the respectable membership of nearly 1,000 persons. When I tell you that there are about 4,000 persons on the Dental Register you will see that already after a short existence of fifteen or sixteen years, the Association includes one quarter of the entire dental profession. It does not include the whole profession, and that I think is also to its credit. There are certain members of it who are conspicuous, and I hope ever will be conspicuous, by their absence. Not only has the Association nearly 1,000 members, but in various ways it does work which commands our respect and gratitude. A great service which this Association renders to the profession and the public is its discouragement of advertising. We all know that that is a great scandal, a great source of fraud and a great public evil. It is somewhat to the discredit of the Legislature that the prosecution of this kind of offence in connection with this branch of the profession and my own branch of it should be left either to such a body as your own, or the Medical Defence Union or the General Medical Council. If the Legislature did its duty in this matter it would impose the duty of prosecuting such persons upon the Public Prosecutor. If I may be allowed to say so, the Public Prosecutor is a physiological phenomenon. He has accomplished the great feat of hibernating throughout the whole year. He is never heard of in connection with anything useful in respect of the Medical or Dental Acts. The advertising practices of unqualified dentists and quacks are a source not only of great physical evil to the community, but of great moral evil. As a member of the Medical Council I am glad of the opportunity of testifying to the great services of this Association and to the great help which it renders to that body. The Medical Council has never been an actively prosecuting body. If Professor Horsley had been here he would have told you that, in much more eloquent and accusative terms than I perhaps feel disposed to indulge in. At any rate, whenever we exercise our judicial functions we receive the greatest possible assistance from your Association. And that is the more kind and creditable on your part because so far you have no representative in the Medical Council. I am sure that is a defect, a defect which ought soon to be remedied. I cannot quite say that we can spare any of our direct representatives—we have only three for 22,000—but I am sure that in any amendment of the Medical Act (which cannot long be delayed) the claim of the dentists of England to a representative in the Medical Council cannot be disregarded. I cannot sit down without congratulating the Association on the prosperity and popularity of the branch of the profession which you represent. Going to the dentist, in my young days, used to be a thing of terror ; now it is one of the most popular things imaginable. And I sometimes say that so highly is your profession appreciated that the sum paid by the public to dentists for the care of their teeth is as large, if not larger, than the sum which it pays for medical attention to the rest of the body. With these observations, I commend to you the toast "The British Medical Association," coupling with it the name of Mr. J. Smith Turner.

Mr. J. SMITH TURNER : I feel that I am unable adequately to respond to this toast. At the same time I have grounds for satisfaction in rising to address you. Dr. Glover, though called upon suddenly, evidently had a clear idea of the work of our Association and the progress it has made, and he seemed to think that its future was not without bright prospects. It was a great pleasure to me to observe that the toast proposed by Dr. Glover was received with so much enthusiasm, and also that in the midst of many conflicting opinions and fierce discussions, there were clear indications of mutual friendship and of devotion to the Association. In thanking Dr. Glover for his kindness, I desire also to thank through him the medical profession generally for the encouragement and support which it has afforded us. I would refer especially to our indebtedness to the General Medical Council, the chief representative body of the profession. We know that it has lately devoted to us a large amount of its time. Perhaps some of you may think that that is a rather ruinous gift in a monetary point of view. Still, during the last few years, and especially since the advent of direct representation, we have had occasion to be grateful to the Medical Council for the attention which it has given to us. It has responded fully and fairly to any requests that we have made. The question before it now is that very serious one of covering, a far more serious and demoralising outrage of the spirit and letter of the law than advertising ever can be, and I am bound to say that the Medical Council has taken up the question very seriously. It may be thought that its deliberations are slow. They only meet twice a year ; their sessions are not long, and they have a large amount of business to do ; but I am sure if we approach them in a gentlemanly spirit, and do not attempt in our zeal to hustle, or goad, or worry them, I have complete faith in the result. Then there is another representative Institution to which we owe thanks, the Royal College of Surgeons. We have to thank, too, the Medical Press for the way in which it has taken up our cause. It is true, there is one medical journal that sometimes vilifies us in a way perhaps more Hibernian than logical, but we can afford to pass that over in view of the support we receive from the medical journals generally. We are also largely indebted to the lay press. It is interesting to notice how our aims and needs are being gradually but surely recognised by this most powerful instrument of progress and enlightenment. It is natural, and perhaps wholesome, that a certain amount of suspicion should exist in a free and liberal press regarding anything which seems narrow and selfish. But it is now being gradually cleared away, and we have the satisfaction of observing that the voice of the press is being more and more powerfully raised in our favour. In the comments recently made on the case of the Indian oculist, dentists were regarded as claiming some consideration from the Legislature. And in referring to the case of the "Strand barbers," the press has again recognised that dentists are not the outsiders they are supposed to be, but that we are qualifying ourselves to serve the public faithfully as professional men. Again, coming still nearer, in the powerful leader in the *Times* on the scandalous case of Regina *v.* Priestley, and in the correspondence which followed it, you will see that the voice of the press is being raised in our favour, and that we are no longer fighting our battles single-handed. I do not think it will be a breach of confidence if I say that the *Times* leader was inspired by one of our members. And here let me make a suggestion to the Parliamentary Committee of the British Medical Association and to the leading spirits of medical reform, that it might be worth while to make an effort to carry dentists along with them in their parliamentary campaign. Some of you may remember that the Dentists Act was passed in opposition to the Medical Press generally and to certain influential trade journals. When it was before Parliament, there was also a Medical Act before Parliament, which ended in a miserable fiasco, while the Dentists Act became the law of the land. Let me remind you that many of the men who fought for that Bill are still with us, and that the organisation which helped us is with us still, but greatly improved. For my own part, if I were attempting to bring about any legislation, I should consider it much better to have the friendship of those men and that organisation than to have them as my enemy in the thorny field of politics. I wish to thank the medical profession particularly for the support they have given us, for coming to our meetings and encouraging us not only by their presence, but by their words. At the request of several of our country Branches the members of the British Medical Association have agreed among themselves to refrain from meeting or administering aid and anæsthetics for unqualified practitioners who are misleading the public by their shameful advertisements. It would be well if some of our medical anæsthetists in London would follow their example. It is a sad fact that in all professions you have men who are prone to bow down to the golden calf, however filthy his surroundings may be. Now let me turn to another pleasing phase in our experience. I refer to the growing conviction that we are entitled to a representative on the Medical Council. Not only is this being largely recognised by the members of the profession, but by many members of the Medical Council. They are beginning to feel that they do not know everything, and that they want a dentist among them to guide them more quickly to legitimate conclusions. We have men among us who are familiar with the wants of the medical profession as well as of our own particular Branch, and it would, I believe, be a great gain to the Medical Council if one of these men at least—you know to whom I refer—had a seat at the Council; it would be an advantage to the Council itself, to the medical profession, and most assuredly to the public at large. At the time when the question of direct representation was becoming very acute in the medical profession, the Dentists Act was just about being introduced into the House of Commons; and at a meeting in reference to direct representation I heard the remark made, "Why, with all these changes, by-and-by even the dentists will be requiring a representative on the Council." In this way the dentist was held up as a "bogey man" to frighten reformers and prevent them from pressing this very needful innovation. Now the dentists are not only asking this as a privilege, they are demanding it as a right. Direct representation has now become part and parcel of the constitution of the Medical Council, and that body is now more useful than ever it was before. With regard to ourselves, I need hardly say that we, as an Association, are doing our best for our profession and the public. Our Act has been severely criticised, but I may say, as one who had something to do with the passing of it, that we have not lost conceit of it yet. It is far in advance of anything that the medical profession, with all its power and influence, has been able to procure. We can defend ourselves in a measure against quacks and impostors by the clause in the Act which says that a man may not by any false assumption of a title presume to practise dentistry. The Medical Act says that a man must not "wilfully and knowingly" pursue a certain course, and it is difficult to convict a man under such a clause. The Veterinary Act protects the dumb animal from the practice of the charlatan by saying that a man may not by implication pretend that he has a right to practise. Your teeth, gentlemen, are far better protected than the rest of your corporation. The dog and the horse and the ass are protected better than you are by the Medical Act under which you live. In saying this, I think I may leave the British Dental Association to speak for itself. You have heard from Dr. Glover how it is growing in numbers ; I have tried to show how it is growing in influence. It has been speaking for itself during the last few days, and speaking with no uncertain voice. If you will look at the programme of the last few days and compare it with the programme of fifteen years ago, you will see that we have made striking advances both internally and externally. We have progressed in education, and it is that which entitles us to the consideration we are receiving. That is the hill we have to climb. Our diplomas and degrees are not procured for show and ostentation, but that the knowledge which they imply may be used for the benefit of our patients ; and our return will be the consciousness of having done good. Let me thank you, in conclusion, for the privilege you have given me of responding for the British Dental Association, and for the patience with which you have listened to me.

Mr. C. S. TOMES : Mr. President and Gentlemen,—I have been asked to propose the toast of the "Royal College of Surgeons of England." It is quite impossible for us to overrate the debt of gratitude we owe to the Royal College of Surgeons. It is an oft-told tale, still a tale that bears repetition. We may follow the example of the College of Surgeons themselves, when they periodically keep green the memory of John Hunter by drinking a toast in his memory. I think it will be a healthy exercise for us from time to time to recall the obligations we are under to that great Corporation. I will ask you to go back in your minds with me for a period of something like forty years, and try to realise that time when all that was best and most representative among the dentists could be gathered round the hospitable board of a single man. Picture in your minds that small body of men, of no very great influence, certainly of very small numerical strength, approaching a great, I might almost say in medical matters, an omnipotent, corporation like the Royal College of Surgeons of England. Think of their approaching that body when there were, as there always have been, giants among their number. Fortunately, however, we were able to impress upon the minds of men like Lawrence, Green and Arnott, who at that time were leading spirits in the College of Surgeons, that there was something to be said for our case, and we succeeded in inducing that great Corporation to hold out their hands to us, and to initiate in this country a dental diploma. That helped us on to the first rung of the ladder that we have since, I hope, been steadily climbing. And why did they do that ? Not that we had great influence, or that we were able to clamour at their doors and demand admittance, but that we were able to show that there was something to be said for what we wanted ; that it was a step in the right direction, and moreover, that those who were urging it most strongly had an absolute singleness of purpose, seeking the good of their profession and not the good of themselves. The College of Surgeons had nothing to gain by taking us by the hand. The diploma was to be purely voluntary, and it was not likely that any large number would take it. Our petition was granted just at the last moment, when the College was applying for an alteration in its charter, but those who had charge of our affairs at that time were not the people to let the grass grow under their feet. My father went at six o'clock in the morning to rout up the then solicitor of the College from what, we will hope, was a well-earned repose, to get him to draft and put into the amended charter of the College that very day the provisions which would carry out what we desired. I think that was an object lesson in not losing an opportunity. An examination was started. It was a very different thing from the examination that you know now. There was no practical examination. Even when I came on the Board, some seventeen years ago, the practical examination was limited to the taking of a certain number of chairs down to the College of Surgeons, the candidates bringing patients of their own selection, with cavities already prepared to fill; and, with a very proper regard for the time of the examiners, they did not select very difficult cavities. It is also said, I do not know how far truly, that with some regard for the time of the examiners, those cavities they had filled and re-filled once or twice before in order to get their hands in. All that is much altered now. Then there comes a period of twenty years, during which only steady progress was made. Then came the passing of the Dentists Act, which would have been utterly, wildly impossible but for the fact that the College of Surgeons had taken us by the hand twenty years earlier. Time has gone on, and many more steps have been taken and many rungs of our ladder climbed. The College of Surgeons has gone on improving its standard. It has recently issued a number of fresh regulations involving certain additional studies, and a good deal of additional examination. The policy of the College of Surgeons has ever been that its diploma should stand at least as high as, if not higher, than that of any of its contemporary bodies. In 1878, when the Dentists Act was passed, or shortly after, a strong effort was made to induce the English College to admit *sine curriculo* candidates to its examination, but the College made a strong stand and said, "No, there is the curriculum, and it shall be said in future that those who obtain the licence of the College of Surgeons have gone through it, and have done all that could possibly be required of them." The generous help which the College has accorded to us has been continued ever since, and the last manifestation of it was when the College gave us the other day the loan of its premises for the very delightful conversazione given by our President. I beg to couple with this toast the name of Mr. Christopher Heath. I need not introduce Mr. Heath to any one present. Many of you have met him across a table narrower than this, and under circumstances perhaps less agreeable to you, and have learned that as an examiner he has the gifts of firmness, fairness, and above all, of kindliness. There is no one in the world of surgery whom we may so fairly claim as our own. He is connected with us by ties of family ; he has served in several capacities at our Dental Hospital ; he has made the surgery of the mouth so much his own subject that he is the unquestionable authority upon it in this country, and I may say in the world. There is, therefore, a very special fitness in his responding for the College of Surgeons at such an assembly as this.

Mr. Christopher Heath : Mr. President and Gentlemen,—In the absence of the President of the College of Surgeons, my friend, Sir William MacCormack, it has fallen to me to return thanks for this toast, and I need hardly say that it gives me great pleasure to do so. Many reasons which Mr. Tomes has given so kindly will explain why I personally feel a great interest in the dental profession. You who were at the College of Surgeons the other night would, of course, have made acquaintance with the outward appearance of the great John Hunter, and probably, although you may not have read them minutely, you may know his papers—wonderful papers for the time at which they were written—on the development of teeth and the surgery connected with them. We who live a century after a great man like that are apt to regard him with a sort of veneration which those whom we know contemporarily do not gain from us. Mr. Tomes has spoken in too flattering terms of my labours in connection with the surgery of the mouth. Hunter has deservedly the credit of having been the first British surgeon who really turned his attention in any way to the subjects of the mouth and the teeth. It is a curious thing, and it is very little known, that there is in existence a Life of Hunter which was written by a contemporary, and, being a contemporary, I need hardly say that he was quite aware of Hunter's weaknesses as well as of his virtues. A certain Mr. Jesse Foot, surgeon, published a Life of Hunter within a year or two of his death, in 1793, and he goes *seriatim* through Hunter's works and criticises them somewhat severely. I may say that Mr. Jesse Foot was a working surgeon, and that his line was venereal. What he particularly resented was that Hunter should have published a book upon that subject. He criticises Hunter's book on the teeth, and I may say with justice, because there can be no question that some of the points of development and so on which Hunter lays down are incorrect. We know better now. But the point I want to make is that Mr. Jesse Foot says that up to the time of Hunter it was an unknown thing for surgeons to have consultations with dentists. The surgeons, the eminent leaders of that day, sent their patients to the dentists with directions as to what was to be done, and the dentists obeyed them ; but Mr. Hunter, he says, not having much practice, and being naturally desirous to increase it, made arrangements with a dentist of the day (a gentleman whose name will be known to some of you—Mr. Spence) to be present at Mr. Spence's house on certain days and at certain hours, in order that he might see Mr. Spence's cases of disease of the mouth. If you will refer to the essay of which I have spoken, "Hunter on the Teeth," you will find that he mentions, speaking of the extraction of teeth, how necessary it is that the dentist should use time, deliberation, and skill in performing it ; and then he says : "I may mention that Mr. Spence is the only dentist I know who ever takes advice from the surgeon and carries it out." We have already had reference made to advertisements, and I am afraid that Hunter's contemporaries would have put that down as very much like an advertisement ; but we can afford to disregard it now, and merely take it as evidence that John Hunter was large-minded enough in his day. But to return for a moment to the College of Surgeons. It has been already said that it is a great Corporation. There can be no question about it: it is a great Corporation, consisting of fellows and members, and having connected with it also that large body of practitioners, dental licentiates. The College, of course, has gone through various vicissitudes. It was first a City Company in connection with barbers, then a City Company on its own legs, and lastly, in 1800, a Corporation with a charter, which has undergone modification from time to time until the present day. We are always being urged—I speak as a member of the Council—to do impossible things. We are always told that we have only to get another charter and that we can convert the College of Surgeons into a sort of Mutual Admiration Society and Mutual Protection Society. I trust, gentlemen, that that day will never come. The object of the College of Surgeons is the promotion of science and the benefit of humanity, and the idea of turning a great Corporation like that into a mere Protection Society, which shall just give the assistance that may be required in a few petty instances by gentlemen who have exposed themselves to prosecution (which perhaps they all richly deserved) is absurd. I say again, it is a great Corporation, and it will be the fault of its heads if it ever goes wrong. I trust that you, being connected closely with it, will use your influence to prevent anything of that kind occurring. We have a magnificent college, a magnificent museum, and a splendid library, and I am glad to say that all the licentiates of the College are entitled to visit the museum whenever they choose, to read in the library, and to attend all the lectures that are given. That is a privilege which I hope some of you may find time to take advantage of. Certainly I hope, as time goes on, you will take advantage of the magnificent museum to study both the natural and morbid anatomy that is there displayed in a manner which cannot be found elsewhere. Then let me say that we have, unfortunately I think, the examinations at the Examination Hall. It has given us great pleasure to place that also at your disposal for your meetings; but I regret a little that the examination for dental diplomas should entirely take place there. It is, however, unavoidable, I fear, under present circumstances. I regret that the dental licentiate is not necessarily brought into the College of Surgeons. I would he were brought there and solemnly inducted into his rights, privileges, and immunities, so that it might make more impression upon the minds of the young practitioners. Still, whereever you get your diploma, there it is—a licence and a certificate that you have been well educated and duly examined, and are fit to practise. Then, of course, in addition to that, you have the right of being registered, and you can come before the public in a way which the dentists of the time of Hunter knew not, and could not possibly have conceived. Gentlemen, I congratulate the dental profession on the position it holds. I trust it will still go forward, and that those new regulations which Mr. Tomes has alluded to, and to which we have devoted a good time of late at the College of Surgeons, may lead to a still higher standard of professional merit.

Mr. H. T. BUTLIN: Mr. President and Gentlemen,—I thank you, first for having so kindly given me an invitation to be present at your dinner, and secondly for having entrusted to my hands this which I hold to be a very important toast, and one which is thoroughly congenial to me. Of all kinds of charity that charity which is extended to the professional brother in distress is, to my mind, the best example of charity which begins at home. I look through the Report of the Benevolent Fund, and I find that it extends its assistance not merely to dentists who have fallen into evil days, but to the widows of dentists and their orphans. One case particularly struck me in which a dentist, who is described as an aged and much-respected member of his profession, lately a member of this Association, and formerly a member of the Odontological Society, was reported to the Committee to be in a state of direst want. I think of that poor fellow, how he must have gradually sunk lower and lower, and how he must have suffered from day to day and from week to week in constantly-increasing terror and anxiety. There faced him nothing, I suppose, in those days but, on the one hand, death, and, on the other, the workhouse; then, like some good fairy in the story, there appeared to him quite suddenly your Benevolent Fund, and, raising her wand, touched him and brightened his later days. I cannot conceive a better way of extending assistance than this. I have often thought that this, which I call co-operative charity, is infinitely better than private and promiscuous charity, which is often administered very injudiciously, although it is often given most lavishly. On the other hand, I cannot conceive it possible that we could close our hearts and purses to all kinds of pathetic stories which come to us in private. I suppose there are few of us who, at some time or other, have not been visited by an old fellow-student, who comes and pours out his tale of woe, and, in return for the donation he takes, leaves in the consulting room a vapour of spirit which is far more truthful than the story which he has told. To the end of time he will receive something from us—at least, I hope he will. Of course, there is always a danger that semi-public funds, like your Benevolent Fund, may be imposed on, and that people who have no right may claim assistance from it. On the other hand, you must remember the people who might claim assistance and do not. With this toast of the Dental Benevolent Fund I ask you to couple the name of Mr. Ackery. He has furnished me with this Report and with various particulars connected with the Fund, and has imposed on me demands which I dare not disobey, but which I scarcely know how to comply with. For an outsider to make any kind of criticism seems to be almost an impertinence. Yet he tells me that he is so anxious to obtain new subscribers to the Fund that I must say so, and must point out that there are now nearly 1,000 members belonging to the Association, and not quite two-fifths of that number are subscribers to the Fund. And further, he wishes you to know that he is very anxious to obtain a greater number of annual subscribers; that the annual subscriptions scarcely amount to £100 a year, and that donations which ought, I suppose, to be capitalised, are at present used for current expenditure. I quite admit, with him, that this is a very undesirable state of things. If all your members subscribe only half a guinea each that will give an annual income of 500 guineas, and if some subscribed a guinea or more it would instantly double the revenue of your Treasurer. Half a guinea a year amounts to about 2½d. a week, and I am sure everybody could pay that without feeling it. I now ask you to drink prosperity to the Benevolent Fund of your Association, and not merely to drink prosperity to it, but to ensure its prosperity, for that lies in your hands. Mr. Ackery, whose name I couple with the toast, has only one fault, that is modesty. He told me nothing about what he has done, or the time and energy which he has devoted to this Fund.

Mr. J. ACKERY: Mr. President and Gentlemen: It always gives me pleasure to return thanks for this toast, but there is at the same time a counteracting influence resulting from my inability to express the feelings we have towards those by whom the toast is so kindly received. I also feel that I am put up as the mouth-piece of the executive. If I were speaking for myself I should feel less diffident, but speaking for the executive I feel that a greater responsibility rests upon me. Without your aid, gentlemen, the executive can do little or nothing; with your aid they can do much. What we require is your confidence and support. That we have your confidence is evident from your kind reception of this toast, and from the enthusiastic way in which the reports were received at the annual meeting. Mr. Butlin, in his eloquent remarks, has gone so deeply into the cases that have been treated and the objects of the fund, that I need not trouble you further on this point. I should like, however, to make a remark or two upon what has happened in the course of the past year. At the last annual meeting a suggestion was made that an interest in the fund might be awakened by appointing agents in the various local centres. After the meeting the matter was taken into consideration, and, as a commencement, it was decided that a request should be made to the Hon. Secretaries of the Branches that they would take up the local representation in their districts, and that where the districts were too large to be worked by one individual the Councils of the said Branches should nominate and authorise certain other members interested in the work to carry forward the objects of the fund. It takes some time to set a scheme of this sort in motion, but already considerable results have been obtained. In three or four Branches at least we have had men who have acted promptly and with great energy, and the subscription list has already been very much increased. At the present meeting a further development was suggested—that we should obtain the aid of the ladies—the wives, daughters, and sisters of dental practitioners. I cannot understand how it is that we should have gone on so long without seeking their assistance. It is often extremely difficult to appreciate correctly the amount and the kind of aid required, and the way in which it should be distributed in the case of widows and children, and in this respect, no doubt, ladies can be of considerable assistance. After luncheon yesterday we had a small impromptu meeting, at which about twenty ladies were present, and fifteen gave their names as willing to act, should they be called upon. The number has since been increased by canvassing among their friends. I should be glad if the members of the Association itself would support the fund in the same proportion. Only about two-fifths of the members are at present annual subscribers. When we get three-fourths of the members to subscribe it may possibly be time to cease the constant appeals that we are now obliged to make. I need not give you the details of the cases that are brought before us. Only the executive, who come into immediate contact with them, can really recognise the trouble and sorrow, and, in some cases, the absolute want and neglect in which some of our professional brethren are to be found. With regard to the progress of the fund, I may say that in 1892 there were 123 members of the Association annual subscribers, while last year the number had increased to 340. Let me add that certain members have approached me this evening with a scheme of their own, which will probably commend itself to the majority; but it is difficult to say whether it will commend itself to all. It is this. On the occasion of each annual meeting a certain Guarantee Fund is always forthcoming to defray the expenses of entertaining, and, such is the liberality of the guarantors that, as a rule, there is a surplus, which may be returned in proportion to the amount contributed. I have a list before me of certain gentlemen who say that they will be very pleased if any surplus that may be due to them from the Guarantee Fund is paid over to the Benevolent Fund, and if there are others willing to do likewise I shall be pleased to add their names to the list.

Mr. J. H. MUMMERY : The task has been imposed upon me of proposing the health of the visitors. It is impossible to do justice to the merits of the gentlemen who have honoured us with their presence, especially the representatives of the College of Surgeons, to whom the success of our meeting has been so largely due. Some of our friends have been unfortunately obliged to leave—the representative of the Medical Council, and the Chairman of the Examining Board of the College of Surgeons—to whose hearty co-operation we are so largely indebted. I beg to propose the health of "The Visitors," coupling the toast with the name of the Vice-President of the College of Surgeons, Mr. J. Langton.

Mr. LANGTON : I wish on this occasion to sink the office of Vice-President of the College and Members of the Council, and to place myself in perfect unison with you. I am asked to respond to the toast as a stop-gap. Whether I stop the gap with gold or some other form of amalgam, perhaps some baser material, it will be for you to judge. As a visitor, I ask you to accept our warmest thanks for your kind entertainment, and still more for the way in which our health has been proposed. I have held the office of Chairman of the Board of Examiners for dental surgery, and I have seen it pass through many phases, but I can say at the end of my office that the examinees were much better prepared for work than they were at the beginning. This shows what a great future you have for yourselves. I trust that you will have a large and satisfactory development, and that you will have a definite representative of your own on the General Medical Council. I have no doubt that you will soon attain that object, which I am sure you fully deserve.

Mr. MORTON SMALE : I rise to propose the health of "The President." There is, I think, a fitness in my being asked to propose it. I have known Mr. Canton for many years. I knew him as a student, and always found him hard-working, punctual, and courteous, and on all occasions kind and considerate to his patients. I have know him as a colleague on the staff of the Dental Hospital of London, and in my experience I have never known a colleague more reliable or more ready to sacrifice the private calls of practice to the public calls of duty at the Hospital. I have known him on the executive of this Association. I knew him as Secretary, and I knew him as Treasurer. He was my colleague as Treasurer when I had the honour of being your Secretary, and there has never been in the history of the Association a more thorough and enthusiastic Treasurer. I knew him also as President of the Representative Board, where he always did his duty without any thought of self. Quite recently he has been elected an Examiner at the Royal College of Surgeons, and he is receiving the approbation of his colleagues and those who come before him for examination. His leading characteristics are altruism and unselfishness. With his usual self-sacrifice he has set aside other claims, and is here as your President. I have not ceased to take the kindest interest in the welfare of the Association. It seems to me that we can liken the Association to a ship, the Representative Board being its crew, and the Business Committee its officers. There have been signs of dissension amongst them. Let us put away all dissension, and let us all loyally and generously support the captain. Rumours have been current that sound like mutiny, a discontented minority threaten to scuttle the ship. I would venture to warn them that by adopting such a course they would only drown themselves. In Mr. Canton we have a captain equal to the task of weathering them through all storms and troubles, and I am sure that when his term of office is at an end he will be able to hand over the command to the gentleman who may succeed him, with only some little honourable scratches upon the varnish of the vessel. I beg to propose the health of Mr. Canton, including the members of his family who have worked so well to make this meeting a success.

The PRESIDENT : I am utterly incapable of replying to this toast. I am afraid Mr. Smale did not get my message so well as Mr. Tomes did, requesting that there should be no "buttering." I thank you very much for your kindness and for your forbearance with me in my many shortcomings. It is through your kindness and leniency that I have been able to fulfil the duties of my office on this and other occasions upon which it has been my honour and privilege to preside.

Excursion to Knockholt Beeches.

On Friday a large number of ladies accepted the invitation of Dr. and Mrs. Walker to visit Knockholt Beeches. The train was taken from Victoria to Beckenham, and from there the guests were driven through Holmwood Park to Chevening Park and Knockholt, where the party rested, returning to Victoria about seven o'clock.

At luncheon Mrs. Chas. Tomes, on behalf of the ladies, thanked Dr. and Mrs. Walker for the pleasant excursion ; and Mrs. Cunningham, at the same time, suggested that, at the entertainment to be given to the ladies in the evening at the Hotel Métropole, the ladies should all wear some heather in honour of Dr. and Mrs. Walker's kindness.

Saturday, August 15.

Excursion to Richmond.

The concluding day was devoted entirely to pleasure, and the excursion which had been arranged proved to be of a most interesting and enjoyable character. At 9.30 the steamer "Queen Elizabeth" left the Westminster Pier with a party of about 250 on board, and threaded her way down stream to view the Tower Bridge, and also allow those on board to gain some slight idea of the activity of the shipping at the "Port of London." A return was then made to Westminster, and in calling again at the pier some 150 more joined the already numerous party. Progress was then made up stream to Richmond, the new Lock being passed *en voute*.

Having disembarked, the company proceeded to the Star and Garter, where an excellent luncheon had been provided, and during this the President, in a few gracious words, thanked the Ladies' Committee for the excellent and admirable manner in which they had carried out their task. The toast of the Ladies' Committee was cordially received, and then in glowing and well-deserved terms the toast of the Hon. Secretary was given, Mr. J. A. Biggs bringing this informal speech-making to a conclusion by proposing the health of the President (Mr. Canton). A photograph was then taken,* and those present having rejoined the steamer, the trip up stream was continued past Pope's Villa at Twickenham, almost as far as Teddington.

The return journey was not without its humorous side, for on nearing Hammersmith Bridge it was found that the steamer could not make its way under that structure. Several attempts were made, much to the amusement of a large concourse of spectators on the bridge, the band on board playing some appropriate music, such as "We won't go home till morning," and "Wait till the clouds roll by," while at the same time we heard whispers that it was distinctly a case showing the disadvantage of "fixed" over "removable bridge work." Fortunately the tide fell quickly —after a quarter of an hour's wait—and Westminster was reached before eight o'clock. So terminated a most pleasant day and a most successful meeting.

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* Messrs. Byrne & Co., Photographers to the Queen, Richmond, Surrey, have succeeded in taking good photographs of the large group of members and of the members of the acting Executive present.

The Ladies' Committee.

The Ladies' Committee, during the meeting, worked with untiring energy. In addition to the various entertainments already referred to, a reception was given in the "Louis Seize" drawing-room, Hotel Métropole, simultaneously with the annual dinner.

Arrangements were also made on the different days for visiting the Tower of London (Armouries and Regalia Room), a special warder conducting the party by order of the Governor, the Royal Mint (unfortunately coining operations were suspended during the week), and Bridgewater House, St. James's; while Messrs. Redfern's, of Bond Street, the well-known ladies' tailors, offered a tempting invitation, of which, no doubt, many of the ladies readily availed themselves.

Western Counties Branch.

A MEETING of the Council of the above branch will be held at Minehead, on Saturday, October 10, 1896. Further particulars will follow in the circular.

An ordinary meeting of members will be held after the conclusion of the Council Meeting. Members intending to be present are requested to inform T. ARTHUR GOARD, *Hon. Sec.*

6, *Southernhay*, *Exeter*.

Central Counties Branch.

A MEETING of the above will be held at the Dental Hospital, 71, Newhall Street, Birmingham, on Thursday, October 15, commencing at 6.30 p.m. Mr. F. R. Howard will give a paper on "Some Experiments with a Downie Furnace;" Mr. Malcolm Knott will introduce the subject of the administration of anæsthetics by medical men for unregistered or advertising practitioners, and will bring forward a resolution thereon. Casual communications. A Council Meeting will be held at 6 o'clock. A. T. HILDER, *Hon. Sec.*

83, *Edmund Street*, *Birmingham*.

Appointments.

PETER CRANK, L.D.S.Eng., D.M.D.Harv., to be Honorary Dental Surgeon to the Adelaide Hospital.

A. B. WOLFENDEN, L.D.S.I., to be Honorary Dental Surgeon to the Halifax Infirmary.

E. H. MACKLEY, to be Honorary Dental Surgeon to the Salisbury and South Wilts Provident Dispensary, and Honorary Dental Surgeon to St. Michael's Home, Salisbury.

JOHN A. GARTLEY, to be Honorary Dental Surgeon to the Ealing Home for Girls (of the National Refuges for Homeless and Destitute Children), St. Mary's Road, Ealing.

Original Communications.

Valedictory Address.*

By BOWMAN MACLEOD, L.D.S.Edin., F.R.S.E.

Ladies and Gentlemen,—From the reports which will be immediately submitted to you by the Treasurer and Secretary, you will be gratified to learn that the past year, like many which have preceded it, has been one of considerable progress, and has strengthened our reasons for congratulating our Association on the steady advance made since 1878, in the consolidation of professional interests, and the consequent elevation of professional status.

It is, however, not yet time to relax our efforts in this direction, or cease from taking advantage of every opportunity which may enable us to perfect our educational training, to render more perfect and uniform the pass standards of our licensing bodies, and devise some amendment of our Act which would restrict, or perchance, prohibit, the practising of dentistry by untrained and uncredentialed persons. The machinery at our command is not yet sufficiently powerful to reach these desirable ends, nor will it be so until we secure, amongst other things, direct representation on the Medical Council.

I had occasion lately to be in Cape Colony, South Africa, and when there, naturally gave some attention to the practice of our profession in that far-distant and comparatively new country.

In 1891, following the example of their home brethren, they obtained a Dentists Act for the colony.

In framing that measure they wisely took advantage of our experience, and the result is that they have (I venture to think) a better Act than we.

It is shorter, much more comprehensive, and much more easily interpreted and administered by the common run of men and magistrates.

On looking round, visiting various dental practitioners, and making enquiries in various quarters, I found that our profession was recognised by the Legislature and by the public as a distinct, an educated, and an honourable profession. The members of the profession were trusted and respected, occupied a good social status, and their services received grateful and ungrudging recognition. That the practice of the profession, though not without its drawbacks (and what calling is unalloyed), was, on the whole, exceedingly inviting, and the results satisfactory. On the dental register of Cape Colony, which is the only state in South Africa which has complete control of the practice of dentistry, I find that at June, 1895, there were forty-six dentists, not all of these, however, practising in Cape Colony, some of them having migrated to other States. Of these, twenty-five were registered as in practice before 1891; while twenty-one held various recognised and registrable qualifications under the following divisions:—

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* Delivered at the Annual General Meeting, on August 12, 1896.

Royal College of Surgeons, England	7
,, ,, ,, Edinburgh	3
,, ,, ,, Glasgow	3
,, ,, ,, Ireland	4
Continental University and State Diplomas	4

No American degrees or licences were registrable, as none of them at that date carried with it the impress of three years' education, the minimum amount of study required by the Cape Colony Legislature.

This Colonial Act not only prohibits a person using the title of dentist, or any other title or designation, which would lead the public to believe that he had received the necessary education, and obtained the required qualifying recognition of such education, but it prohibits any person practising dentistry, or dental surgery, who is not in possession of a registrable diploma, and has had the same recognised by, and received a licence to, practise from the State Board. The penalty incurred by a breach of this enactment is "A fine not exceeding £100, or in default of payment, imprisonment not exceeding six months with or without hard labour."

It, furtherwhile, distinctly recognising dental surgery to be a part of medicine, clearly differentiates between the qualifications required for medical practice, and the qualifications required for the practice of dentistry, as the following excerpt will show:—"It should be understood that the licence to practise as a medical practitioner does not cover such of the functions of a dentist as do not come under the category of surgical operations. Licences for such must be applied for separately." Further the Act deals very thoroughly with covering, as "no person who is charged with a contravention of the section for practising as a dentist without a licence, shall be acquitted by reason of the fact that he is in the employ of, or is agent for a person duly licensed to practise as aforesaid, unless he is under the actual supervision and control of such duly licensed dentist." You may be sure that under such a wise and salutary Act the Cape Africanders are not much troubled with the specious legends "American Dentistry," or "Dentoriums." Whether we may ever be blessed with such restrictive and protective powers is a question which even the most sanguine could or cannot answer in the affirmative, however strong their convictions, that it is the necessary and only legitimate conclusion to a scheme of compulsory education, but there is one provision in this South African Act which is quite within the reach of practical politics, and which we may speedily gain if we but set our minds to obtain it, and that is to have direct representation on the Medical Council. The Medical Council of Cape Colony is composed of seven medical men and one dentist; the dental member being consulted, in fact becoming the adviser-in-chief in all matters relating to the dental profession; his sole qualification for a seat on the Council being that he is the possessor of a recognised dental diploma, and is registered. The advantage to the public and to the profession in having such a representation on the Board which controls the course of our education, and measures the standard of our examinations, must be apparent to all, and the absolute necessity of such representation at home has been recently made manifest by the failure of our Medical Council to find within its own body a member sufficiently qualified to assess the value of the examinations of our various licensing bodies, and being forced to go outside its own constitution, and appoint Mr. Charles Tomes as its skilled representative and assessor in this special department. But what good is a mere assessorship of this description. He has no seat at the Board. He presents his report; it is received and *sat upon*. Aye—and secure in the absence of the expert—sat upon, possibly, by some truculent member, whose outstanding talent is to make his mark by raising objections to that which he does not, and cannot understand, but who, in this instance at least, by his amateur efforts, and austere countenance, by his lugubrious protests, and his melancholy voice and warnings, hopes to eclipse the matured opinions of one professionally accustomed "to look down in the mouth."

No, gentlemen, it is not for us to accept such a bastard position in the direction of our own affairs. We have long been of opinion that we absolutely need Direct Representation. This action of the Medical Council shows that they recognise the necessity and, let us hope, admit the justice of Direct Representation. It is for us, then, while the iron is hot, to make a sharp stroke, a strong stroke, and, at some forthcoming election, a stroke all together; form and weld the link of Direct Representation for Dentists, making more complete and effective the chain which binds the best interests of the Client with the efficient service of the Profession.

And now, ladies and gentlemen, I retire from office, thanking you most sincerely for the honour which I have enjoyed at your hands during the past twelvemonth. As successor I, in your name, extend to Mr. Frederick Canton the hand of hearty welcome, and leave confidently with him the devoutedly-wished-for Direct Representation, in the full belief that during his reign we shall see its consummation.

The "x" Rays in the Practice of Dental Surgery.*

By FRANK HARRISON, M.R.C.S., L.D.S.

It was my expressed intention to have devoted my remarks to-day to the subject of art metal workers, but the interesting and useful discovery of Professor Röntgen of what he, for want of a better term, called *x* rays, completely deviated me from that course.

I had read of the results of the application of this new power to surgery, and I determined, if possible, to apply it to our specialty, and to see if it would afford us any aid in diagnosis. I set to work with enthusiasm.

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* A paper read at the Annual Meeting of the Midland Counties Branch, held at Sheffield on June 26, 1896.

My first experiment was a success, but that was not on the living subject. The tube with which I worked by some means lost its vacuum; then for a fortnight I was struggling to overcome first one difficulty and then another.

A scientific obstacle race—I had no sooner got a new tube to work well than my secondary battery gave way. Now, under ordinary circumstances, I should have had no difficulty in getting this re-charged, but my chemist, who had been in the habit of charging my accumulator, informed me that he was removing his engine and giving up using his dynamo.

Sheffield is supplied with the alternating current, which of course is useless for working with a Ruhmkorff's coil. After making various fruitless efforts to get my accumulator charged, I determined, with as little delay as possible, to put down a small Gardner plant—giving ten volts and ten ampères—and charge my battery at my pleasure. This I found to be a very satisfactory machine, since one can easily run direct from dynamo to coil and thus exclude the cells if desirable.

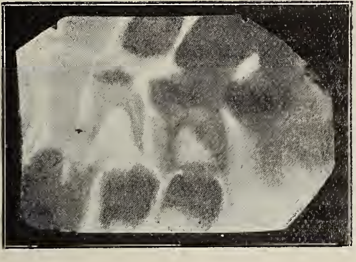
Nor was this the only difficulty; having my whole apparatus working well for some little time, I did not determine the area of the face upon which to direct the kathodic rays, and consequently for some time got no results. I had had the rays focussed on the masseteric regions rather than on the orbicular muscle of the mouth. This mistake led me into another one—that of increasing the exposure and the consequent difficulty of melting the films in the mouth with the tube in correct position. I was gratified to see the first image of the roots of the teeth gradually develop in the negative. Extra rapid glass plates were cut to the size suitable to be retained in the mouth, but were not so satisfactory in my hands as Eastman's Kodac films. With an exposure of six minutes it is obviously necessary that some "contrapshun" be arranged to keep the film still and protected from moisture. The salivary glands and deglutitory muscles are excited to action and tend to disturb the sensitive plate. The action of sunlight must also be avoided.

The method adopted in the production of the negatives shown to-day is as follows:—The film is cut the required size and enclosed in black paper and then covered with rubber dam; if in the upper jaw, a small square simply laid over the film is sufficient to protect it, but if in the lower jaw, it must be completely enclosed in rubber. The whole is held in position with a frame of stent which has been previously adjusted to the required area and held in place by closing the teeth upon it, much after the form of an interdental splint.

I have duplicated the negative in some cases with advantage. The film is cut as long again as it is required and doubled, so that two sensitive surfaces are presented back to back. I am under the impression that this shortens the exposure, by the second film fluorescing. I have also tried a modification of this method in a skiagraph of the hand, by placing a gelatine film over the glass one, and I find that I get two equally good negatives.

I must report an injury which occurred during my experiments which caused me some alarm, and has excited not a little interest among my medical friends. One of my assistants, who has been equally devoted and enthusiastic with me in these experiments, acting alternately the part of patient and operator, has developed a trouble which I will report to you. On May 6 the patient was first subjected to the effects of the rays, but with an ordinary Crookes tube. The right side of the face was chosen as being the most accessible. Between this date and the 20th some dozen exposures were made, varying in duration from ten to forty minutes. The current generated by a four-celled accumulator charged with eight volts and five ampères.

On May 22 a French focus tube was used. Whitsuntide intervened, causing an interval of a week, after which we resumed the experiments with a Newton's tube, and a new secondary battery with eight volts and eight ampères. Exposures were made on May 28, 29 and 30, the last one being on June 1. On June 4 the patient complained of an itching and burning sensation, with slight redness over the area subjected to the *x* rays; shaving had to be discontinued on account of pain. I prescribed the free use of lanoline. On the 5th the redness was much deeper in colour, and had the appearance of a local erysipelas with a sharp line of demarcation. On the 6th the hair follicles of the beard and right side of the moustache appeared to pustulate. On June 8 the redness was much less marked, and the skin commenced to desquamate; on the next day the hair over the affected region began to fall, the bulbous end of the shaft being distinctly seen. The hair has continued to fall up to the date of writing (June 24), and the side of the face is quite bald, and the glossy skin in slight wrinkles—a marked contrast to the normal side. Practically on the sixth day after the exposure with the Newton tube the irritation commenced, and was followed by the falling off of the hair on the eighth day.



In my short paper in this month's journal of our Association, I say: "The *x* rays promise to be of great use in dentistry, and will enable the dentist to observe in living tissues what was possible only a short time ago in the dead subject. The genesis of the teeth, the construction of artificial crowns, the anomalies of roots, the difficult eruption of teeth, and many other conditions of organs which are enveloped in tissue opaque under ordinary conditions, become visible by the illuminations of the *x* rays."

The accompanying illustration will be quite a novelty to many. It shows as well as in a dissected specimen the structures enclosed in the bony walls of the lower maxilla. It is from the mouth of a girl of 7 years of age. The six-year molar is distinctly seen at the extreme left of the slide, and the whole temporary lower set up to the lateral incisor on the extreme right; below the roots of the first and second temporary molar may be seen the permanent first and second bicuspids enclosed in their respective bony crypts. The pulp cavities in the milk teeth are distinctly visible, and the detail of the structure of bone can also be described. Added to this, the fact that there is little or no distortion places this as my best achievement.

I have constructed a cryptoscope for dental investigation, but am disappointed to find that my screen does not fluoresce now, although it did three weeks ago. I have not had the opportunity yet of finding out the reason. I would not advise anyone, however, unless he has some good help and plenty of time at his disposal to commence an investigation; unless he has seen the operation in all its stages it is not easy.

Perhaps a photographer in each large town might add the *x* ray apparatus to his present plant, if so, it would be a great advantage. The work is altogether too complicated and too expensive to be added to the dental outfit.

"The New Photography."*

By BIRKBECK HILL and J. HARDIE McLEAN.

As the old year was drawing to a close, Professor Röntgen announced to the world that he had discovered a new manifestation of the forces of nature. He had been able, by means of the fluorescence in a vacuum tube, to photograph things invisible to the human eye, and had taken distinct images or shadows of coins inside a purse, and of the bones in the hand of a living person. In a moment the excitement in the scientific world was intense, and hundreds of eminent men began to copy, and to try to improve on, Professor Röntgen's experiments. Old induction coils which had lain forgotten on the top shelves of laboratories for years were taken down and repaired, while vacuum tubes could hardly be got for love or money. In a very short time new and startling results were obtained by the different experimenters, and by the end of January the "New Photography" was recognised as an indispensable help to surgical science.

Like most other great discoveries, the "Röntgen Rays" were not due to the unassisted genius of one man, great though the credit is to the German scientist. The discovery has been made possible by years of patient research and unremitting labour on the part of those who, unfortunately, will get but little of the credit which is undoubtedly their due. Without the work of such men as Crookes, Lenard, Hertz and F. J. Smith, we can safely say that the "New Photography" would still be hidden in the depths of the vast unknown sea that beats on every shore of the tiny island of knowledge.

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* Read at the Annual Meeting of the Central Counties Branch.

It may be interesting, first of all, to describe to you the apparatus we are using. This consists of an induction coil and a Crookes tube. The tube is the special focus tube invented by Mr. Jackson, of King's College, London, and it has two special features; the vacuum is very perfect, and it is provided with a platinum focusser or reflector, attached to the anode, which directs the rays in a given direction, the rays spreading out from it in the shape of a cone. Before the tube is finally sealed, almost every particle of air is drawn out by means of an air pump, so that, practically, a perfect vacuum is obtained, and it is through this vacuum that the electrical discharge takes place from the anode to the kathode. What are now known as the *x* rays appear to come from that part of the tube that appears most brilliantly fluorescent, and probably rise from the point where the kathode rays impinge upon the glass. Good results have been obtained with other apparatus than the Crookes tubes. At the end of January Lord Blythswood got a very successful negative by placing a sensitive plate between the poles of a Wimshurst electrical machine, and incidentally proved that the agent which is the cause of the effect on the plate could not be due to ordinary electrical phenomena, because he got an equally good result when the plate and object to be photographed were enclosed in a metal box, and inside a metal box electrification is impossible. Other experimenters have got good results from the brush discharge of the secondary "dischargers" of an induction coil without the intervention of a vacuum tube at all, and others again have been successful when using high tension currents in an ordinary incandescent lamp with a broken filament.

When we come to try to explain the nature of the *x* or unknown rays we can lay no claim to originality, and in striving to give some idea of what the rays are, we can only convey to you, as it were secondhand, the opinions and discoveries of some of the leading men of science of the world, of men like Professor Röntgen, Lord Kelvin, Professors J. J. and S. P. Thomson, Professor Oliver Lodge, Mr. Campbell Swinton, and many others.

The commonest remark that has been made to us by people who have watched our experiments is, "We don't see anything."

This brings us at once to the whole question as to the nature of the *x* rays. A photographic plate can only be acted on externally by four sources, viz., optical, chemical, electrical, or by pressure. The *x* rays cannot be due to pressure, because there is nothing in contact with the plate. They appear not to be due to electrical phenomena, because the plates can be insulated, and there is no communication between them and any of the electrical apparatus, and also because the action can take place in a metal box. They are not due to chemical action, because there are no chemical substances in connection with or near the plate, and chemical action can only take place through direct contact of substance with substance. Apparently they are not due to optical influences, because the photographs are taken in the dark.

So far as we understand the word "light," light has nothing to do with it, but it has been proved that under certain conditions these invisible rays can be made, so to speak, visible, as we shall show you presently on the fluorescent screen. It is certain that there is some connection between these invisible rays and ordinary light, although they do not obey the ordinary laws of light. The *x* rays cannot be refracted, and most probably they cannot be reflected. Light is due to transverse undulations in the ether which pervades all space, and when Professor Röntgen published his discovery, he advanced the theory that his invisible rays might be due to the longitudinal undulations in the ether, the existence of which no one can prove, but which most scientific men believe in. His opinion was shared by Lord Kelvin. Most of the leading scientists believe that the rays are due to transverse undulations in the ether in the same way as ordinary light, the wave length of which undulation is infinitely smaller than the wave length of those which cause the phenomena of ordinary light, being so minute, in fact, even when compared with the size of the molecules of substances, that they are able to weave their way in and out between these molecules without colliding with them. A third theory is that the agent at work is a stream of rapidly moving minute particles of matter, which act on the plate in the same way as the air-pressure sand blast used for cleaning stone surfaces in America.

Considering the amount of research which is now being given to the subject, we can confidently hope that great progress will shortly be made in our knowledge of the *x* rays.

As you have seen from the photographs we have exhibited, the new process has been of great service in several surgical cases, and it must be very gratifying to the great discoverer, Professor Röntgen, to know that through him the sum total of suffering in the world has been lessened, and will be lessened more and more.

Those whose privilege it is to help in surgical cases will never believe that finite results have been reached. It is true that up to the present only bones and foreign bodies have been seen and photographed clearly, but it is extremely probable that what are now known as the *x* rays are really composed of two or three different kinds of rays or undulations, some of which may have the power of photographing nerves and tissues. If this is so, and if the strong rays which pass right through the tissues and only photograph the bones can be eliminated, we may hope that before long it will be possible to make a complete photographic diagnosis of the human body.

[After the paper the members were shown the bones of their hands and arms on the barium-platino-cyanide fluorescent screen.]

Legal Intelligence.

Prosecution under the Dentists Act.

At the Cardiff Police-court, on August 13, the British Dental Association prosecuted Mr. N. A. Givovio for acting as a dentist under the style of the "American Artificial Teeth Company," he not being a legally qualified dental practitioner. The defendant, who held a Californian degree, was not registered in England. Since the summons had been taken out, defendant had disposed of his business and left the town, consequently the prosecution only asked for a nominal penalty. The stipendiary magistrate imposed a fine of 1s.

Abstracts.

Incurable Discharge from the Antrum.

By F. NEWLAND-PEDLEY.

A CASE very recently under treatment in the hospital in itself goes far to prove that chronic inflammation of the antrum may be incurable, and that the most satisfactory treatment may be the establishment of a permanent opening into the cavity.

The patient was an unmarried woman, aged 21, and she gave me the following history of her complaint. In the summer of 1891 she noticed a discharge from the nostril. There was no history of an alveolar abscess, and the cause does not seem to have been of dental origin. For the next twelve months she was treated by a doctor at her home, and during that time she syringed out the nose with various lotions, but no improvement resulted. Four years ago she came to the hospital, where the antrum was opened and a drainage-tube inserted. An operation for necrosed bone in the nose was performed three and a half years ago. The opening was now allowed to close, but on the return of the discharge the antrum was re-opened and drained. Subsequently an opening as large as the tip of the first finger was made, and the cavity was stuffed with iodoform gauze. One year ago the antrum was re-opened, and a metal drainage-tube fixed to a vulcanite plate was fitted by one of the Assistant Dental Surgeons. In January of the present year the patient was ill, and discontinued the use of the plate. The opening soon became reduced to a mere sinus, and a flexible wire drainage-tube was inserted. In April she came under my care, and I decided to establish a permanent opening. At my request the antrum was once more opened up, and I made a vulcanite plug which entered the antrum, and was covered over with a denture. At first the plug caused an aqueous discharge from the nose during mastication, but this is subsiding. The patient syringes out the antrum daily, and as the opening is nearly as large as an ordinary wooden lead pencil, there is little difficulty in keeping the cavity clean.—*Guy's Hospital Gazette.*

The Preservation of Chloroform.

By D. B. DOTT.

THE subject of the decomposition and preservation of chloroform has been ably investigated and discussed by D. Brown and D. Rainy Brown (*Ph. J.* [3], xxxiii., 792, and xxv., 836), also by Schacht and Biltz (*Ph. J.* [3], xxiii., 1005). More recently L. Allain (*Journ. de Pharm.* [6], xv., 252; *Ph. J.*, lv., 261) drew attention to the fact that sulphur, added in the proportion of one to a thousand of chloroform, acted as a preservative, preventing decomposition in chloroform exposed to diffuse daylight for an indefinite period. Allain does not explain the action of the sulphur. As it was shown in the papers above referred to, particularly by the Messrs. Brown, that oxygen is essential to the decomposition of chloroform by light, and that chlorine is always present at the earlier stages of alteration, it seemed probable that the sulphur acted as a reducing agent, and that any substance slightly soluble in chloroform and readily oxidisable would likewise act as a preservative. I therefore divided some pure absolute chloroform in four bottles. To the first was added a minute portion of morphine, to the second gallotannic acid, to the third hypophosphorous acid, and the fourth was left pure and simple. These were all exposed in a glass case to diffuse daylight, but where occasionally rays of direct sunlight reach. After a few weeks the pure chloroform showed signs of decomposition, distinctly evident to the nose and to silver nitrate. None of the others had decomposed, and even after a month's further exposure are still apparently unaltered. It therefore appears probable that any substance which is prone to oxidation and soluble, however slightly, in chloroform, will prevent or greatly retard decomposition. If that is correct, one would infer that the preservative action of alcohol is partly due to its capacity for oxidation, whatever secondary part it may also play.—*Pharmaceutical Journal.*

Reviews and Notices of Books.

THE TRANSACTIONS OF THE AMERICAN DENTAL ASSOCIATION AT THE THIRTY-FIFTH ANNUAL SESSION, HELD AT ASBURY PARK, N.J., PHILADELPHIA. The S. S. White Dental Manufacturing Company, 1896.

This volume, comprising about 380 pages of printed matter, contains many valuable papers of dental interest, some of which have already appeared in the columns of the *Cosmos.* We are unable to offer anything like a criticism of the various articles, beyond stating that the majority of them are well worthy of the careful consideration of the dental practitioner.

New Inventions, &c.

"Soloids" of Compressed Drugs.

In a recent issue we called attention to some "Soloids" of carbolic acid which we had received from Messrs. Burroughs, Wellcome & Co. We have now much pleasure in noting that four additions have been made to the list of "Soloids" of compressed drugs, all of which are useful from a dental point of view ; they are as follows :—

Zinc Chloride "Soloids," 1 *grain.*—One, dissolved in an ounce of water, forms a useful astringent solution, useful in the treatment of inflammatory conditions of the mucous membrane.

Corrosive Sublimate "Soloids," 1·75 *grain.*—One of these dissolved in four ounces of water makes a solution of strength of 1 in 1,000.

Silver Nitrate "Soloids," 1 *grain.*—One of these dissolved in an ounce of freshly distilled water forms a solution of sufficient strength for general use as an injection.

Potassium Permanganate "Soloids," 5 *grains.*—One, dissolved in one fluid ounce of water, makes a solution approximately of the same strength as the official liquor potassii permanganatis. One, dissolved in a pint of water, makes a solution of the strength of 1 in 1750 for antiseptic washes and irrigations.

We have tried these various soloids in practice, and can confidently recommend them as not only effective but at the same time extremely convenient, the various solutions being easily and quickly made.

Eucain Hydrochlorate.

We have also received from Messrs. Burroughs, Wellcome & Co. some samples of Eucain tabloids. This drug is a synthetic Cocain, and, like Cocain, possesses the empirical composition

$$C_{19}H_{27}NO_4HCHL_2O.$$

Pure Eucain is, like pure Cocain, very little soluble in water, while the neutral salts are soluble to the extent of 6 per cent.

Several authors have reported their experiences with this new product, and one of the main advantages in which all agree is that Eucain does not, like Cocain, affect the heart's action, and is less toxic than Cocain. Clinical experiments also indicate that Eucain is fully equal to Cocain in respect to the rapidity of its development of anæsthesia, and the permanence and intensity of its anæsthetic effect.

Eucain solutions are absolutely stable, and they may be sterilised without fear of decomposition of the solutions, which is not the case with Cocain.

Dr. Kiesel, of Berlin, seems to have had considerable experience with this drug, and he reports as follows :—

"I first came in possession of this new preparation in November, 1895, and since then have employed it almost without exception. The success was so great that I speedily placed chloride and bromide of ethyl on one side.

"I employ a Pravaz syringe, and inject the solution about $\frac{1}{3}$ of an inch from the tooth to be extracted. In this way difficulties are rarely experienced, and an injection sufficient for the painless extraction of the third molar may be made. In one case, in which it was impossible to advance the needle sufficiently on account of ankylosis, I injected from outside as deep as possible in the direction of the diseased tooth, the third inferior molar on the left side. Four or five minutes after injection the anæsthesia was so complete that a painless extraction was effected. If, as sometimes occurred, the anæsthetic action does not develop quickly or completely enough, then another $\frac{1}{2}$ c.c., or at the most 1 c.c., is sufficient to satisfy both patient and operator with the result. In none of the patients treated with Eucain have I observed disturbances in their general health.

"Some few times after injection the cheek became swollen, although both the solution and the disinfection of the syringe were perfect. Consequently I cleansed the mucous membrane on subsequent occasions with carbolised wadding before making the injection, and have not since seen any swellings." Eucain therefore seems worthy of an extended trial.

Vertical Beaver Crowns.

We have had the pleasure of inspecting some Vertical Crowns which are manufactured by Mr. Francis Lepper, of Great Marlborough Street, W. It is claimed for them that they are *the* only machine-made ones that can actually be used in every possible case. They are seamless, but their sides rise up rectangularly to the grinding surface. Therefore if selected for a tooth and cut down in height, they will *still* fit it.

Alterations of their grinding surfaces that may become necessary to obtain a perfect articulation can be made easily and quickly, without filing the crowns. Small alterations can be performed in the mouth by putting a crown loosely over a tooth (without cement), and punching back any prominent places either with the hand or engine mallet.

These crowns are made in pairs, one fitting exactly over another, and are therefore very useful in the construction of movable bridge-work.

To facilitate the use of the Vertical Crowns, there is a set of gauges consisting of metal rings, of very thin substance and therefore very pliable. Being numbered with the same figures as the crowns they are taken from, no time is lost in finding the crown corresponding in circumference with the gauge-ring.

In some cases they will no doubt be found to be most useful, and this is we think especially the case in making removable bridge-work.

An Improved Anestile Cylinder.

We have received from Mr. B. Kühn, of 36, St. Mary-at-Hill, Eastcheap, an improved form of metal cylinder for the application of Anestile, which is a combination of Ethyl and Methyl chloride. The advantage of this latest pattern over previous forms is that it possesses a screw cock in place of a screw cap, and so allows the jet to be turned on and off with greater ease than was formerly the case, and also avoids waste of fluid. The new cylinders, which are also provided with interchangeable coarse or fine jets, are well worthy of a trial at the hands of those who employ local anæsthetics in practice.

Chinosol.

In a former issue of the Journal we referred to chinosol, a sample of which had been sent to us also by Messrs. Kühn. An extended use of this drug tends to show that it is an extremely useful and effective antiseptic, and in all cases in which it has been tried it has led to excellent results. Chinosol is stated to be the most powerful of all known antiseptics (an aqueous solution, 1 in 80,000, at once arresting the development of the staphylococcus pyogenes aurens). In addition to this it is (1) non-caustic and non-toxic; (2) very diffusible; (3) a non-coagulator of albumen; (4) non-volatile. All things considered, we think chinosol well worthy of an extended trial in dental practice.

A New Hypodermic Syringe.

From time to time we have referred to the various preparations of the firm of Messrs. Burroughs, Wellcome & Co.; we have now received a new nickel hypodermic syringe, which seems to be an advance on those generally in use. This instrument is claimed to keep in perfect working order even if left unused for a length of time, the particular improvement being the provision of an oil reservoir in the piston, securing perfect action.

Miscellanea.

Royal College of Surgeons, Edinburgh.

During the July Examinations the following gentlemen passed the First Professional Examination for the Licence in Dental Surgery:—Thomas Percy Wolston Watt (Ceylon); William Joseph Low; Arthur Capper (Huyton); Harry Eugene Field (Birkenhead); Francis Radley King (Newcastle); Andrew Walker Mount (Leith); William Black Alexander (Edinburgh); George Hills Watson (Edinburgh); and John Alexander Kennedy.

The following gentlemen, having passed the Final Examination, were admitted L.D.S.Edin.: — Lloyd Thomas Lavan (Jersey); William Jones (Edinburgh); Charles Linnaus Routledge (Exeter); Thomas Roger Dove Walkinshaw (Newcastle); Bernard Smith (Huyton); Theodore Stancombe Rendall (Torquay); William Edward Stewart (Dundee); James Wallace Bell (Edinburgh); Richard Mason (Edinburgh); Alfred William Wellings (Salop); Alexander Shennan (Houghton-le-Spring); and Matthew Rodway Leeming (Salford).

The Dental Hospital of London.

The Dental Hospital of London has received a donation of £200 towards the amount required for purchasing a site and re-building the hospital, from the Baroness de Hirsch.

Correspondence.

We do not hold ourselves responsible for the views expressed by our correspondents.

Dental Materia Medica.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—From time to time various members of the dental profession write works on different subjects connected with the science of dentistry.

For some considerable time I have looked through the advertisements for a work on Dental Materia Medica and Therapeutics, and when I noticed the work of James Stocken, Fourth Edition, I was in hopes we were about to receive a work well up to date on all matters relating to drugs, &c., used by a dentist.

I must admit I was sorry to see the review in the Journal of December 16, 1895, for after that nothing more need be said. It must be admitted that there is not a good English work on the subject.

Would the British Dental Association undertake the onus of writing a work, or would one of those gentlemen whose name is familiar to every dentist, write a book on the subject, for it is sadly needed.

I am, Sir,
Yours faithfully,
"PRACTITIONER."

Auckland, N. Z.,
July, 1896.

Books Received.

NOTES ON THE TREATMENT AND FILLING OF TEETH, by W. Cass Grayston, L.D.S.I. *London, Manchester and Dublin:* The Dental Manufacturing Co., Ltd. Pp. 91.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

Educational Supplement.

EDUCATIONAL SUPPLEMENT.

THE steps necessary for anyone wishing to qualify as a dental surgeon may be divided into :

(*a*) The Preliminary Examination in General Education.

(*b*) Professional Education (must extend over four years subsequent to Registration).

(*c*) Examination.

(*a*) *The Preliminary Examination.*

The General Medical Council require, previous to registration, that the student shall have passed an examination embracing the following subjects :—

"(*a*) English Language, including Grammar and Composition.
"(*b*) Latin, including Grammar, Translation from specified authors, and Translation of easy passages not taken from such authors.
"(*c*) Mathematics, comprising (*a*) Arithmetic ; (*b*) Algebra, as far as Simple Equations, inclusive ; (*c*) Geometry, the subject matter of Euclid, Books I., II., and III., with easy deductions.
"(*d*) One of the following optional subjects :—
  "(α) Greek, (β) French, (γ) German, (δ) Italian, (ε) any other Modern Language, (ζ) Logic."

The General Medical Council do not accept any Certificate of pass in Preliminary Examination in General Education, unless the whole of the subjects included in the Preliminary Examination required by the Council for Registration of Students of Medicine have been passed at the same time.

A list of examining bodies whose Examinations in General Education are recognised by the General Medical Council can be obtained from the Offices of the Council, 299, Oxford Street, W. Those most to be recommended are :—The Matriculation of the University of London, the Oxford and Cambridge Local Examinations, and the Special Examination conducted by the College of Preceptors for Medical Students.

The matriculation, which is held in January and June, is on all grounds the best—it can be passed when a youth is 16 or 17 without much difficulty, and possesses these advantages :—It ensures the boy receiving a good education, it opens the doors to all the professions, and if at any time during his pupilage or hospital career the student should forsake dentistry for any other branch of medicine, it is open to him to do so, without returning to school books and passing another preliminary examination.

(*b*) *Professional Education.*

The Professional Education consists of Instruction in the Principles of General Surgery and Medicine, as well as in Mechanical and Surgical Dentistry. The curricula required by the different examining bodies are given on another page, and it will be seen that they only differ from one another in slight details.

This part of the education should commence by an apprenticeship to a registered dentist, or by joining the mechanical department of a recognised dental hospital, where the arrangements for teaching mechanical dentistry are satisfactory to the Board of Examiners in dental surgery. The different examining bodies require this portion of the work to extend over three years. Immediately the mechanical portion of the curriculum is commenced the youth should register as a dental student at the offices of the General Medical Council, 299, Oxford Street, W.

In the case of those who commenced their professional education by apprenticeship to dentists entitled to be registered or by attendance upon professional lectures before July 22, 1878, production of a certificate of a preliminary examination is not necessary. Much trouble often arises from neglect to register. All that is necessary is to apply for a registration form and transmit it properly filled in with the pass certificate of the preliminary examination to the Council's offices.

At the expiration of the three years' mechanical training the student should enter at a dental and a general hospital. The candidate should now register as a medical student, not necessarily to take a medical or surgical qualification, but in order that he may be able to do so at some future time should he wish. The work which would be done at the general hospital for the dental qualification, and which is largely the same as that required for the general qualification, need not then be repeated, but the whole of the time so spent allowed to count as part of the medical curriculum.

The hospital years should be spent in real hard work in mastering every detail of the operative department. The student should seek advice from his teachers, and avail himself of every opportunity of learning from the large experience of the members of the hospital staff. At the general hospital let the time be spent mainly in the dissecting room, the physiological laboratory, and the out-patient department, in which places the most practical part of the medical education is obtained. It is advisable that he should dissect a head and neck, thorax, and abdomen, whilst attending the dissecting-room. The out-patient room is not sufficiently often visited by the general student, and the attendance of the purely dental student is, very often, *nil!* Yet it is here that he must obtain most of his knowledge in practical general surgery.

(*c*) *The Examinations.*

There are four examining bodies which grant diplomas in Dental Surgery. The tables on the following pages show the curriculum required by each and the details of the examination.

EDUCATIONAL CENTRES.

Instruction in dental surgery can be obtained now not only in London but also at many of the large provincial centres. The following are brief particulars of the various hospitals and schools.

LONDON.

The Dental Hospital of London and London School of Dental Surgery.

The Dental Hospital, founded in 1858, was opened for the reception of patients at 32, Soho Square, and in March, 1874, was removed to more commodious premises at Leicester Square, which it now occupies. The rapid growth of the school made enlargement of the premises a necessity, and, thanks to the munificence of Sir Edwin Saunders, another wing was added to the building in 1883, giving increased accommodation, and making the Hospital the largest for dental students. The most complete arrangements are provided for the education of students preparing for the L.D.S. diploma of the Royal College of Surgeons.

The hospital is open every afternoon except Saturday, in addition to the morning, under the supervision of a special staff and house

	Royal College of Surgeons, England.	Royal College of Surgeons, Edinburgh.	Royal College of Surgeons, Ireland.	Faculty of Physicians and Surgeons, Glasgow.
1—PRELIMINARY EXAMINATION.	Compulsory on all who commenced their Professional Education after July 22nd, 1878. Must be registered as a Dental Student at the Office of the General Medical Council, 299, Oxford St., London, W.	Compulsory on all who commence their Profesſional Education after August 1st, 1878. All Boards qualifying for Registration as a Dental Student are recognised.	Compulsory on all, except those who have passed one equivalent examination.	Compulsory on all who commenced the Professional Education after August 1st, 1878.
2—AGE at which the Candidate may present himself	Twenty-one.	Twenty-one.	Twenty-one.	Twenty-one.
3—DURATION OF PROFESSIONAL EDUCATION	Four years subsequent to registration.	Four years subsequent to registration.	Forty-five months. (Four Academic years.)	Four years. (Forty-five months.)
4—COURSES OF LECTURES, &c. to be attended at a recognised School :—				
Anatomy	A Course of Lectures during not less than six months or one Winter Session.	One Winter Course. (Six months.)	One Course (including Dental Anatomy). (Six months.)	One Winter Session.
Dissections and Practical Anatomy	Twelve months.	Twelve months.	Two Winter Courses (including Dissections and Demonstrations). Certificate must include statement that head and neck has been dissected three times.	Twelve months (Dissections.)
Physiology	One Course (Six months.)	One Course. (Six months.)	One Course (including Dental Physiology). (Six months.)	One Course. (Six months)
Practical Physiology (separate from above)	Three months' Course.	(Not required).	One Course (including Dental Histology). (Three months.)	(Not required.)

	Royal College of Surgeons, England.	Royal College of Surgeons, Edinburgh.	Royal College of Surgeons, Ireland.	Faculty of Physicians and Surgeons, Glasgow.
Courses of Lectures.—*Contd.*				
Chemistry	Instruction in, which must include Practical Chemistry and Physics. See note under Materia Medica.	One Course (to embody Metallurgy). (Six months.)	One Course. (Six months.)	OneCourse. (Six months)
Practical Chemistry	See Chemistry.	Three months.	One Course (including Metallurgy). (Three months.)	One Course (including Metallurgy). (Three months.)
Materia Medica	Instructions in, need not be taken in the general hospital and may be taken before registration. ⁂ Attendance at Class Examinations obligatory.	Three months.	One Course. (Three months.)	One Course. (Three months.
Metallurgy	One Course.	Included in Chemistry Lectures.	Included in Chemistry Lectures.	Included in Chemistry Lectures.
Lectures on Surgery	Six months, or one Winter Session.	One Course. (Six months.)	One Course. (Six months.)	OneCourse. (Six months)
Lectures on Medicine	Six months, or one Winter Session.	One Course. (Six months.)	One Course. (Six months.)	OneCourse. (Six months)
Practice of Surgery, and Clinical Lectures	Two Winter Sessions.	Twelve Months (at a recognised Hospital). * Candidates who commenced study before July 1st, 1895, will not require to take more than six months.	One year.	Not less than twelve months.
Dental Anatomy and Physiology, Human and Comparative.	Two Courses.	One Course.	Included in General Anatomy and Physiology Lectures.	Twenty-four Lectures.

	Royal College of Surgeons, England.	Royal College of Surgeons, Edinburgh.	Royal College of Surgeons, Ireland.	Faculty of Physicians and Surgeons, Glasgow.
Courses of Lectures.—*Contd.*				
Dental Surgery & Pathology	Two Courses.	One Course.	Two Courses.	Twenty Lectures.
Dental Mechanics	Two Courses. ⁂ Attendance at Class Examinations obligatory.	One Course.	Two Courses.	Twelve Lectures or Demonstrations.
Practical Instruction in Mechanical Dentistry.	Three years under the instruction of a competent Practitioner, or under the direction of the Superintendent of the Mechanical Department of a recognised Dental Hospital, where the arrangements for teaching Mechanical Dentistry are satisfactory to the Board of Examiners in Dental Surgery. In the cases of qualified Surgeons evidence of a period of not less than two instead of three years of such instruction will be sufficient. This instruction may be taken prior to the Date of Registration as a Dental Student, but under such condition no portion will count as part of the four years of professional study.	Three years under a Registered Dental Practitioner, or in Mechanical Department of a recognised Dental Hospital whose arrangements are held to be satisfactory to the College. This instruction may be taken prior to Registration, but under such condition no portion will count as part of the four years of professional study.	Not less than three years under a Registered Dentist in acquiring a practical familiarity with the details of Mechanical Dentistry. This instruction may be taken prior to Registration, but under such condition no portion will count as part of the four years of professional study.	Three years under a Registered Practitioner, or in the Mechanical Department of a recognised Dental Hospital. In the case of qualified Surgeons two years instruction is sufficient. This instruction may be taken prior to Registration, but under such condition no portion will count as part of the four years of professional study.
Practice of Dental Surgery in a recognised Dental Hospital, or in the Dental Department of a recognised General Hospital.	Two years.	Two years.	Two years.	Two years.

	Royal College of Surgeons, England.	Royal College of Surgeons, Edinburgh.	Royal College of Surgeons, Ireland.	Faculty of Physicians and Surgeons, Glasgow.
5—FEE	£21 over and above stamp duty. For all Students registered before June 17th, 1895, who shall obtain the diploma before January 1st, 1900, £10 10s.	£4 4s. for First. £6 6s. for Second. (No stamp duty.) £15 15s. for those who commence study after October 1st, 1896.	£10 10s. for First, and £10 10s. for Final. Fees for re-examination £5 5s. each part.	£4 4s. for First. £6 6s. for Final. If registered before October 1st, 1896. If registered after October 1st, 1896. £6 6s. for First. £9 9s. for Second.
6—LEAST period during which unsuccessful Candidates are referred to their studies	Six months, subject to the decision of the Board.	Three months. *** No candidate admitted to this Examination who has been rejected by any other Licensing Board within three months.	Three months.	Six months. *** No Candidate admitted to this examination who has been rejected by any other Licensing Board within six months.
7—PARTICULARS OF EXAMINATION	One Examination (1) (2). (A) *First Day* (*Written*). On Anatomy and Physiology; and Surgery and Pathology. (Two questions on each. Time two hours.) On Dental Anatomy and Physiology; and Dental Surgery and Pathology. (Three questions on each. Time three hours.)	*Written and Oral:* 1st Part—Anatomy, Physiology, Chemistry (with Metallurgy).	Two examinations. *Primary:* *First Day* (*Written*). 10 a.m. to 1 p.m. Five questions on Physics and five on Chemistry, including Metallurgy, three on each to be answered. 10 a.m. to 1 p.m. Five questions on Anatomy, and five on Physiology and Histology, three questions on each to be answered. 3 p.m. to 6 p.m.	*Written, Oral & Practical:* (3) 1st part — Anatomy, Physiology, Chemistry, and Metallurgy.

	Royal College of Surgeons, England.	Royal College of Surgeons, Edinburgh.	Royal College of Surgeons, Ireland.	Faculty of Physicians and Surgeons, Glasgow.
Particulars of Examination.—*Continued.*	(B) *Second Day* (*Practical*). (*a*) On the treatment of Dental Caries, and will be required to prepare and fill cavities with gold or plastic filling or other material, or to do any other operation in Dental Surgery. [Candidates must provide their own instruments.]	2nd Part—Surgery, Medicine, Therapeutics, and Special subjects of Dental Anatomy and Physiology, Dental Surgery, and Pathology, and Dental Mechanics. Registered Medical Practitioners are examined on special subjects only.	*Second Day* (*Written and Oral*). 10a.m. to 11. 30a.m (*Written*). Five questions on Surgery. Three to be answered. 4 p.m. (*Oral*). 15 minutes in each of the following subjects—Chemistry, Anatomy, and Surgery.	2nd Part — Surgery, Medicine, Materia Medica, Dental Anatomy and Physiology, Dental Surgery and Pathology, Dental Mechanics. Registered Medical Practitioners are examined in Dental subjects only. Practical Examination at a Dental Hospital. Candidates are to bring Excavators, Files, and Plugging Instruments. It is also intended in the future to have a Practical Examination in Dental Mechanics.
	(*b*) On the Mechanical and Surgical treatment of the various irregularities of Children's teeth. (*c*) In Mechanical Dentistry.	There is a Practical Examination in Dental Hospital as well as Written and Oral Examination in Dental and General Surgery, Pathology and Mechanics at Surgeons' Hall.	(*Third Day Practical*). Practical Examination in Chemistry and Histology at Royal College of Surgeons. Candidates are examined for at least half-an-hour in each subject.	Practical Clinical Examination and also practical Examination in Mechanical Dentistry. Oral Examination in all the subjects.

	Royal College of Surgeons, England.	Royal College of Surgeons, Edinburgh.	Royal College of Surgeons, Ireland.	Faculty of Physicians and Surgeons, Glasgow.
Particulars of Examination.—*Continued.*	(B) *Third Day* (*Oral*). Ten minutes each on Anatomy, Surgery, Dental Anatomy, and on Dental Surgery.		*Final :* *First Day*. Practical Examination in Clinical Dental Surgery and Practical Operative Dentistry, and Mechanics. Candidates are required to provide their own Instruments and gold for filling. *Second Day* (*Written*). 10 a.m. to 1 p.m. Five questions in Dental Surgery and five in Dental Mechanics (including Dental Metallurgy) three to be answered. 4 p.m. Oral Examination of 15 minutes in each of the following subjects: Dental Surgery and Dental Mechanics.	
8—DATE OF EXAMINATION.	May and November.	I. *Primary* Examinations. Tuesday, April 27, 1897. Monday, July 26th, 1897. II. *Final* Examinations. Begin on following Thursday. [NOTE.—All students registering on and after January 1st, 1897, will be subject to the new regulations.]	Examinations. February, May & November. Candidates must be registered Dental Practitioners in practice before 1878.	Oct. 6th and 7th, 1896. April 6th and 7th, 1897. The Second Examination takes place on the two days following these dates.

	Royal College of Surgeons, England.	Royal College of Surgeons, Edinburgh.	Royal College of Surgeons, Ireland.	Faculty of Physicians and Surgeons, Glasgow.
For further information apply to Secretary.	F. G. HALLETT, Esq., Examination Hall, Victoria Embankment, London, W.C.	FRANCIS CADELL, Esq., M.B., F.R.C.S.E., Secretary and Treasurer, 22, Ainslie Place, Edinburgh, or to the Clerk of the College, James Robertson, Esq., Solicitor, 1, George Square, Edinburgh.	G. F. BLAKE, J.P., Royal College of Surgeons, Dublin.	ALEX. DUNCAN, Esq., Faculty of Physicians and Surgeons, Faculty Hall, 242, St. Vincent Street, Glasgow.

(1) Candidates who are Members of the College, or who have passed the Examination in Surgery of the Examining Board in England, or who shall produce evidence of having passed the Examination in Surgery for the Licence in Surgery of the Royal College of Surgeons of Edinburgh, the Royal College of Surgeons in Ireland, or the Faculty of Physicians and Surgeons of Glasgow, or an Examination in Surgery for a Degree in Medicine or Surgery at a University in the United Kingdom, will be exempt from re-examination in General Surgery and Pathology.

(2) Candidates who have passed the Second Examination of the Examining Board in England, or who shall produce evidence of having passed the Examination in Anatomy and Physiology required for the Licence in Surgery of the Royal College of Surgeons of Edinburgh, the Royal College of Surgeons in Ireland, or the Faculty of Physicians and Surgeons of Glasgow, or an Examination in Anatomy and Physiology required for a Degree in Medicine or Surgery at a University in the United Kingdom, will be exempt from re-examination in those subjects.

(3) Candidates who have passed the First and Second Examinations of the Examining Board in England, or who shall produce evidence of having passed the First and Second Examinations of the Scottish Conjoint Board; the third Professional Examination of the Royal College of Surgeons in Ireland; the corresponding Examinations required for a Degree in Medicine or Surgery at a University in the United Kingdom, will be exempt from the First Dental Examination.

surgeons, this extension of the hours of work having been found necessary in order to afford the additional opportunities for practical work and teaching which the rapid growth of the institution demanded.

The officers for the day give practical teaching at the chair side, enabling the students to acquire experience in the treatment of the many minor difficulties of their profession.

Four demonstrators are appointed, whose duty it is to teach the students, and on their respective days to assist the new students in their work. During each session they hold classes and give instruction in Operative Dental Surgery.

A demonstration is given in each week by a member of the staff for second year's students. The whole of the staff demonstrate and give lectures on various modes of practice, and any form of work in which they are specially skilled.

The mechanical laboratory is under the care and superintendence of the lecturer on Dental Mechanics, and a skilled mechanic. Students are required to take models, manufacture and fit in the mouth dentures for those patients allotted to them by members of the staff, the actual manufacture being under the superintendence of the mechanical assistant, while the adapting to the mouth is supervised by members of the staff.

It is intended, in this manner, to supply a portion of the student's education heretofore unprovided for, and to more perfectly equip him for the exigencies of dental practice. It enables him to be in a better position to meet the requirements of the College of Surgeons of England with regard to Mechanical Dentistry, in which subject the Board of Examiners for the L.D.S. demand a practical examination from candidates for that diploma.

The medical tutor attends and helps the students in preparing for their examination for two months before each examination.

The Saunders Scholarship, value £20, is awarded each year.

Messrs. C. Ash & Sons give a prize of the value of five guineas each year. Prizes are awarded by the lecturers, and a special one is presented to the best operator for the year.

The eight house surgeoncies are valuable additions to the prizes, and are filled by students of the hospital holding the L.D.S.

Fee for two years' hospital practice required by the curriculum, including lectures, £50 in one payment on entry, or 50 guineas in two yearly instalments. The curriculum requires two years to be passed at a general hospital. The fee for this is about £55. *Both hospitals can be attended simultaneously.*

The Calendar may be obtained on application to the Dean, who attends at the hospital on Wednesday mornings from 10.30 till 12 o'clock throughout the year.

MORTON SMALE,
Dean.

The National Dental Hospital and College.

(Founded 1861.)

GREAT PORTLAND STREET.

This Hospital has only been recently erected, and the accommodation and fittings are in complete accord with the latest requirements for efficient teaching.

An Entrance Exhibition of the value of £15 is open for Competition at the commencement of each Summer and Winter Session, after an Examination in the following subjects :—

Physiology.—The Functions of Respiration, Circulation, and Digestion.

Osteology.—Bones of the Head.

Chemistry.—The Non-Metals and their Compounds.

Dental Mechanics.—Theoretical and Practical.

All New Students pass through a preliminary course under the care of a Demonstrator.

All the Members of the Staff, besides teaching at the Chair-side, give Special Demonstrations.

Six Prizes, in Medals, are open for competition among the Students of the College at the end of each Course of Lectures on the following subjects, viz. :—Dental Anatomy, Dental Surgery, Dental Mechanics, Metallurgy, Operative Dental Surgery, and Dental Materia Medica.

Certificates of Honour will be awarded to those Students who show sufficient proficiency in any of the classes.

The Rymer Gold Medal for General Proficiency, value £5, will be awarded annually to the most distinguished Student of the year.

The Ash Prize, value £3 3s., is awarded annually for the best Thesis on a subject in Dental Surgery.

The Meetings of the Students' Society are held on the evening of the first Friday in each month from October to March, both inclusive, at 8 o'clock.

The Fee for Two Years' Hospital Practice, and for all the Lectures required by the Curriculum of the Royal College of Surgeons of England, is thirty guineas, until October 1, 1896, when it will be raised to forty.

A Calendar and all particulars can be obtained on application to

SIDNEY SPOKES, *Dean.*

Guy's Hospital Dental School.

This school is in connection with Guy's Hospital, and is the only Dental School in London where all the requirements for the L.D.S.Eng. can be obtained.

An Open Entrance Scholarship in Arts, of the value of £30, is offered for competition annually in the month of September. All particulars relating to the examination may be obtained upon application to the Dean.

Three Prizes are awarded annually—First Year's Students' Prize, £10; Second Year's Students' Prize, £15; Second Year's Students' Prize (Practical Dentistry), £10.

Instruction is given to students in making dentures, regulation plates, and mechanical appliances for the treatment of dental irregularities and oral deformities. Pupils for the Mechanical Apprenticeship are not accepted. The Mechanical Laboratory is under the care of a skilled mechanic.

Preparation Classes.—Before each examination for the diploma of L.D.S., Classes and Demonstrations are given by the Demonstrators.

Continuous Instruction is afforded by means of a separate morning and afternoon Staff of Dental Officers, who give Clinical Demonstrations.

The following appointments are allotted to Dental Students according to merit: Three Dental House-Surgeons, two Assistant Dental House-Surgeons, one Assistant Demonstrator of Dental Microscopy, six Demonstrators in the Conservation Room.

Fees.—The Fees for the two years' Hospital Practice required by the Royal College of Surgeons for the L.D.S., including Lectures, is £50. The Fee for instruction in general subjects in Guy's Hospital Medical School is £60, with a reduction of 12 guineas in the case of those Students who have obtained certificates of instruction in Chemistry, Practical Chemistry, and Materia Medica. No arrangements are made for short periods of Instruction or separate Courses of Lectures.

Further particulars, with prospectus, may be obtained from the Dean,

Dr. LAURISTON SHAW, Guy's Hospital, S.E.

GENERAL MEDICAL SCHOOLS.

Candidates should apply to the Dean of the Medical School at which they intend to enter, for a calendar. At the Middlesex and Charing Cross Schools, the times of Lectures are specially arranged to suit Dental Students.

CHARING CROSS HOSPITAL, W.C.

The Composition Fee for Dental Students is 54 guineas, or 60 guineas payable in two instalments of 30 guineas each. A reduction is made in the case of Students who produce Certificates on joining the School of previous attendance on Chemistry, Practical Chemistry, and Materia Medica. There is an entrance Scholarship of £30, open to Dental Students only.

H. MONTAGUE MURRAY, M.D., *Dean.*

KING'S COLLEGE, STRAND, W.C.

No special arrangements are made for Dental Students.

SIR HUGH R. BEEVOR, *Dean.*

LONDON HOSPITAL, MILE END, E.

Composite Fee for Dental Students.—Hospital Practice and Lectures, £42. General fee for Dental Practice, £10 10s.

MUNRO SCOTT, *Warden.*

MIDDLESEX HOSPITAL, BERNERS STREET, W.

The Composition Fee for Dental Students is 54 guineas in one sum on entrance, or by instalments of 40 guineas on entrance and 20 guineas at the beginning of the second Winter Session. No deduction can be made from composition fees.

W. PASTEUR, *Dean.*

ST. BARTHOLOMEW'S HOSPITAL, SMITHFIELD, E.C.

Fee for General Subjects for Students of Dental Surgery:—First Winter, 31½ guineas; First Summer, 31½ guineas; or a single payment of 63 guineas.

T. W. SHORE, M.D., *Warden.*

ST. GEORGE'S HOSPITAL, GROSVENOR PLACE, S.W.

Fee for General Subjects required for the Diploma in Dental Surgery, excluding Practical Chemistry, is £50 (Composition Fee), or by payment in two instalments:—First year, £30; second year, £25.

ISAMBARD OWEN, M.D., *Dean.*

ST. MARY'S HOSPITAL, PADDINGTON, W.

Entrance Fee to the General Hospital Practice and Lectures required for the examination in Dental Surgery at the Royal College of Surgeons, England, £55; payable in two instalments:—First year, £30; second year, £25.

GEORGE FIELD, *Dean.*

ST. THOMAS'S HOSPITAL, ALBERT EMBANKMENT, S.E.

The Fee for attendance on the General Subjects required of Students in Dental Surgery is, for the two years, £65; or by instalments, £55 for the first year, and £15 for the second year.

H. P. HAWKINS, *Dean.*

UNIVERSITY COLLEGE, GOWER STREET, W.C.

The Fee for Subjects required at a General Hospital by the Dental curriculum is 65 guineas.

PROFESSOR A. E. BARKER, *Dean.*

WESTMINSTER HOSPITAL, BROAD SANCTUARY, S.W.

The Fees for the General Surgical Practice and Lectures required for the Dental Diploma of the Royal College of Surgeons may be paid in one of two ways, viz.:—1. In one payment on entrance, £50. 2. In two payments, of £27 10s. each, to be made respectively at the commencement of each academic year. These payments include the Library Fee.

A Scholarship, value £20, is offered annually for competition to Dental Students commencing in October. Particulars in Prospectus from—

WALTER G. SPENCER, M.S.Lond., *Dean.*

MANCHESTER.

Victoria Dental Hospital.

DEVONSHIRE STREET, ALL SAINTS.

Two Dental Surgeons are in attendance each time the hospital is open, and are assisted in the practical teaching by the Demonstrator and House Surgeons.

PRELIMINARY INSTRUCTION.

During their first four months at the Hospital new students are taken by the Demonstrator through a very complete course of practical instruction in all branches of operative dentistry. This course includes the actual preparation and filling of cavities out of and in the mouth, the treatment of the different pathological conditions of the dental pulp, the treatment and filling of root canals, and the different methods of crowning.

A SPECIAL COURSE OF DEMONSTRATIONS

is given to more advanced students by the Lecturer on Operative Dentistry, and other demonstrations are given periodically by the dental staff.

Prizes.—The Fletcher prizes are awarded annually—in July. They consist of a first prize, value £8, for second year's men, and a second prize, value £2, for the first year's men. The Matheson Operating Prize, value £3 3s. A prize, value £2 2s., is given by Messrs. Ash & Sons for the best essay on some subject in general surgery in connection with the teeth. This prize is awarded in July. Two prizes, value one guinea and two guineas, are offered respectively to first and second years' men, for proficiency in the extraction of teeth. A prize, value two guineas, for the best Regulating Case treated during the year.

Fees.—The fee for the two years' Dental Hospital practice required by the College of Surgeons of England is £12 12s., which must be paid in advance.

A prospectus containing full information may be had on application to—

GEO. G. CAMPION, *Dean.*

The dental lectures and general instructions are obtained at the Owens College, in conjunction with the Manchester Royal Infirmary.

The dental department forms an integral part of the department of medicine, and affords the fullest opportunities for study to students preparing for any of the dental examinations.

In addition to the ordinary dental lectures required by the licensing bodies, a course on Operative Dentistry is given during the summer session, and these are supplemented by a series of practical demonstrations given by the lecturer at the Victoria Dental Hospital.

There is also a special course of demonstrations on Dental Histology and Pathology, in which students are enabled to mount for themselves microscopic specimens illustrating these subjects.

Prizes or medals and certificates are awarded in all the classes on the results of the several examinations.

The fee for the two years' lectures, &c., required by the Dental Curriculum of the Royal College of Surgeons of England is £50, payable in two sums of £25 each at the beginning of the first and second years of studentship.

The two years' general hospital practice is taken at the Manchester Royal Infirmary, fee £10 10s.

Prospectuses will be forwarded on application.

H. W. Holder, M.A., *Registrar.*

LIVERPOOL.

Liverpool Dental Hospital and School of Dental Surgery.

The alterations and additions have met with the entire approval of those concerned in carrying out the work of the charity and school, and as it now stands, this school offers advantages to students which are not excelled anywhere.

The ground floor of the building contains the following : Extraction Room, with all needful appliances : Anæsthetic Room, specially reserved, with every convenience ; and large Waiting Room for Patients.

The first floor has a large Board Room, and a very comfortable Students' Room, set apart exclusively for the use of the students.

The whole top floor of the building has been thrown into one fine, airy, and well-ventilated Operating Room. This room will accommodate upwards of thirty operating chairs, which are of the "Morrison Pattern," and each of which has a special electric light (canting pendant) suspended before it.

In the basement a very convenient Workroom has been fitted up, containing the necessary requirements, and there are also commodious lavatories for students.

The times of the Lectures at the University College have been re-arranged to meet the convenience of students, thus allowing the maximum time for attendance upon Dental Hospital Practice.

Fees for two years' Hospital practice, £12 12s.; Perpetual, £15 15s.

Additional information can be obtained at any time on application to R. EDWARDS, *Dean.*

The various dental lectures and instruction in general subjects are obtained at University College, Liverpool, the composition fee for all lectures being £50 in one payment on entrance, or in two equal instalments (one half on entrance and the remainder within twelve months), the fee for General Hospital Practice being £10 10s.

Further particulars can be obtained of

Professor PATERSON, *Dean.*

BIRMINGHAM.

Birmingham Dental Hospital.

71, NEWHALL STREET.

This hospital provides all the necessary Practice for the L.D.S. England. The Demonstrators attend four days a week to instruct the students. Demonstrations are given weekly to the senior students by the Honorary Staff.

The New Conservancy Room is fitted with the latest appliances, and means are provided for the making of Crowns and Bridge-work.

The post of Assistant to the House Surgeon is awarded every six months to a senior student. Certificates of Merit are awarded annually to the best operators. The "C. Green" Memorial Silver Medal is awarded to the best operator under Anæsthetics. Messrs. C. Ash and Sons give a prize annually for the best essay upon a given subject. A prize is awarded annually for the best series of Regulation Cases.

Fees for two years' Hospital practice, £12 12s.

A Prospectus containing full information will be forwarded on application to FRED. W. RICHARDS, L.D.S.Eng.,
Honorary Secretary to the Surgical Committee.

The various special Dental Lectures and also the entire course of Instruction in General Subjects is provided at Mason College in conjunction with the General, Queen's and Dental Hospitals.

The College possesses a well-equipped Dental Museum and Laboratory. An Entrance Scholarship of £15, Medals, and Certificates in the Classes are offered annually. There are special courses on Surgical Diseases of the Mouth, and on Diseases of the Mouth and Stomach in relation to Dentistry, and on Practical Dental Microscopy. Fees—General Hospital, £12 12s. ; Mason College (Lectures), £50. Prospectuses and further information can be obtained from

GEO. H. MORLEY,
Registrar of the College.

Devon and Exeter Dental Hospital.

Pupils of any member of the staff or other registered practitioner (being a Life or Annual Governor) are permitted to attend the practice of the Hospital, subject to the approval of the Medical Sub-committee, on payment of £5 5s. annually to the funds of the Institution. Attendance on the practice of this Hospital is recognised by the Royal College of Surgeons of England as qualifying for their Dental Diploma. Full particulars can be obtained of

HENRY YEO,
Hon. Secretary.

EDINBURGH.

Edinburgh Dental Hospital and School.

31, CHAMBERS STREET, EDINBURGH.

The new premises, 31, Chambers Street, present facilities for a complete Dental training.

Besides the ordinary practice and instruction, special classes have been instituted in Gold Filling, Dental Materia Medica and Therapeutics, Dental Metallurgy.

There are rooms for extracting, with and without anæsthetics, and every facility is given for the thorough acquisition of a knowledge of anæsthetics and their application.

Special facilities are also afforded in the mechanical department under the superintendence of the Lecturer in Dental Mechanics and his demonstrators ; a large and fully equipped workroom under the charge and direction of a competent mechanic having been set aside for the construction of dental appliances, and general Technical Training.

Fee for two years' Hospital Practice, £15 15s.; Lectures, as required by the Curriculum, £9 15s. Special Lectures free.

There is a Students' Society in connection with the School.

The prospectus for Session can be obtained on application to the Dean, at 31, Chambers Street.

One or two indentured Pupils can be attached to the School, who will receive both Mechanical and Operative instruction within the building. Period of Pupilage, four years. This term includes period of medical study.

Instruction in general subjects is obtained at "The Medical School of the Royal Colleges of Surgeons and Physicians of Edinburgh."

The total fees for the necessary Hospital practice and Lectures amount to £80.

W. Bowman Macleod, *Dean*.

GLASGOW.

Glasgow Dental Hospital.

4, Chatham Place, Stirling Road.

New premises having been secured for the above in the most central and busy thoroughfare of the city (5, St. Vincent Street, corner of George Square), it is now fully equipped with every facility for the training of Dental Students. It is well lighted, the sanitary arrangements are complete, and the electrical installation is an efficient one. Students desirous of joining may do so at any time.

The winter session commences on November 1, 1896.

Fees for attendance on the Lectures and Hospital Practice, £23 2s.

J. A. Biggs, L.D.S., *Dean*.
D. M. Alexander, *Secretary*.
97, West Regent Street, Glasgow.

The Medical Schools in connection with the Dental Hospital are the University, Andersonian, and St. Mungo.

The fee for the two latter is £2 2s. for each subject (except Anatomy £4 4s.). At the Glasgow University the fee for each subject is £3 3s. (except Anatomy £6 6s.). The total fees for General Hospital practice and Lectures range from £28 7s. to £44 2s.

IRELAND.

The Dental Hospital of Ireland.

Lincoln Place, Dublin.

All dental students who have passed their preliminary examination are admissible to the Clinical Instruction of the hospital, after paying fees and subscribing to the conditions prescribed by the staff.

In addition to Clinical Instruction, courses of lectures and demonstrations will be given at the hospital in Dental Surgery and Pathology, Mechanical Dentistry, the Administration of Anæsthetics, Dental Microscopy, crowns, pivots, porcelain inlays, gold filling, &c.

In addition to the longer courses of hospital attendance, special courses of three months' duration will be given to surgeons about to join the Army and Navy, or to practise in the Colonies or remote country districts.

Fees (all of which are payable in full and in advance).

Dental Hospital Practice.—* First year, £15 15s. * Second year, £12s. 12s. † Six months, £5 5s. † Three months, £3 3s.

In addition to the above courses, Registered Dentists, who are *Members of the British Dental Association*, will usually be permitted to take out a three months' course for a fee of six guineas.

Further particulars can be obtained from the Registrar of the hospital, or from

R. THEODORE STACK, *Dean.*

ADDITIONAL QUALIFICATIONS.

A qualification in medicine and surgery, in addition to the L.D.S., is of great value to the dental surgeon. The curricula demanded by the various medical corporations are much broader than that required for the dental diploma, and the student who fulfils such curricula naturally acquires a greater breadth of knowledge which cannot fail to be of use to him in treating many of the pathological conditions met with in the mouth.

To those intending to take an additional medical qualification, the following will be found a good plan. The references are made, for the sake of an example, to the English qualifications, viz., the L.D.S., in connection with M.R.C.S.Eng., and the L.R.C.P.Lond.

The alterations made by the College of Surgeons of England in the dental curriculum have virtually made the curriculum for the 1st and 2nd professional examination for the conjoint examination identical with that for the dental diploma, and by allowing the mechanical work, and theoretical and practical chemistry to be taken before registration, gives the dental student greater opportunity for taking in addition to the L.D.S. the conjoined diploma, of which it is to be hoped he will take advantage. Inasmuch as the dental students have to take the same subjects as the general student, it would be wise, with a view to thoroughness, that the 1st and 2nd professional examination for the conjoint diploma should be passed, thus ensuring that the subjects are properly attended and learnt. The subjects for the final examination for the M.R.C.S. and L.R.C.P. can then be taken at leisure, and may extend over some years, and the examinations passed from time to time as opportunity arises, even after the student has begun dental practice.

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* Each year's hospital practice includes one course of lectures in Dental Surgery and Pathology, and one course of lectures in Mechanical Dentistry.

† Courses marked thus are only for Surgeons going to practise in the colonies or remote country districts, or in the Army or Navy.

Those students who have passed the 1st and 2nd examination for the conjoint diploma will not be examined in anatomy and physiology at the examination for the L.D.S.

During the mechanical apprenticeship, which is recognised by the College of Surgeons when taken previous to the preliminary examination, the student can receive instruction at certain institutions recognised by the conjoint board, in chemistry, including chemical physics, practical chemistry, pharmacy and materia medica, and after the preliminary examination has been passed, he should register as both a dental and medical student, and present himself for examination in these subjects before entering a hospital, then enter simultaneously at a general and dental hospital. At the end of his first winter session he can take his first professional examination for the conjoint diploma, and at the expiration of his second winter he can present himself for the examination in anatomy and physiology.

At the expiration of two years he may present himself for examination for the dental licence ; he will during these two years have been attending simultaneously both the general and dental hospital. During the remainder of his time he should devote himself to surgery, medicine, and midwifery.

It is felt that the recent changes brought about by the amalgamation of the two colleges have greatly increased the difficulty of obtaining these higher qualifications ; such is not really the case, the curriculum being really simplified.

For the convenience of reference the mode of procedure is tabulated as concisely as possibly, for the dental student to obtain the three diplomas.

1. Preliminary examination.

2. Apprenticeship.

3. Registration as a dental and medical student, or this latter can be postponed until entry at the general hospital.

4. During apprenticeship receive instruction as above in chemistry, materia medica, and pharmacy, and passing in them at the Examination Hall.

5. Enter simultaneously at a dental and general hospital.

6. Pass first professional examination for the conjoint diploma at end of first winter session.

7. Pass in anatomy and physiology at end of second winter session.
8. Take the final dental examination at end of second year.
9. Devote remainder of time to medicine, surgery, midwifery, &c.
10. Pass the final examination of the two colleges.

The best plan, however, for those who have the time to spare, is to complete the examinations for the medical qualification, and then enter at a dental hospital and subsequently take the dental diploma. In this way the student brings the whole of his knowledge of general surgery and medicine to bear upon the special surgery of the mouth, and naturally obtains a clearer insight into the pathology of the various affections he has to deal with.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 10. OCTOBER 15, 1896. Vol. XVII.

The Representation of Dentists on the Medical Council.

THE election of three members to the General Medical Council is an event of considerable importance to those of our profession who are interested in the administration of the Dentists Act. Without minutely reviewing the history of the Council through the last six years, we may say safely that during this bygone period our affairs have received a fair share of attention, and indeed, since the commencement of direct representation, the increased activity and extended interest of the Council in dental business has been well marked. It must not be supposed that we attribute this satisfactory change entirely to this circumstance, for during that time there have been many changes in the composition of the Council. New members have been nominated who have entered into office without the prejudices of their predecessors, and who had in some instances, by adverse criticisms, committed themselves to definite action. The influence of such men has been two-fold, for while they have, according to their lights, espoused our cause with honest effort, they have, in doing so, overcome the passive resistance offered to our business by some of the older members, and have even converted our whilom adversaries into professed friends. This has been accomplished without any serious dislocation of the affairs of the Council, and so quietly that only those who remember the attitude of the Council towards us when the Dentists Bill was passed can realise the great change which has been slowly developed.

There are now eight candidates for the three vacancies on the Council, and one of the three, Dr. Glover, who seeks re-election, has on all occasions shown a practical interest in our affairs, and to him and his retiring colleagues, Sir W. Foster and Mr. Wheelhouse, we can make our grateful acknowledgments for what they have done on our behalf.

As might have been expected from one who has had so great experience in medical politics, Dr. Glover's address deals in principles rather than in details. The purity of the Register, the judicial action of the Council, the methods of inquiring into professional conduct (misconduct?), and giving effect and publicity to removal from the Register, are all grouped in one short paragraph. Referring to a burning question which has been frequently before the Council, he says that it is "being clarified by discussion" —a happy phrase, which should be noted by us as indicating the frame of mind in which to approach questions of our policy. He desires the co-ordinate action of the Medical Council and the qualifying bodies in matters of discipline, and declares for an extension of direct representation.

It will be seen that all these points intimately concern the administration of the Dentists Act, and although

Dr. Glover does not in so many words recognise the need of direct representation by dentists, we think that, from his past attitude towards us, we may consider him as a very desirable member of the Council from our standpoint, and claim him as a reliable friend.

Along with Dr. Glover, Dr. Woodcock, of Old Trafford, Manchester, and Dr. Drage, of Hatfield, are recommended by the Medical Defence Union, and we observe with much satisfaction that both these new candidates state explicitly, in their respective addresses, their views in favour of dental representation. The first-named says that dentists should have "at least one representative."

Dr. Drage says: "I would suggest that one of the Crown appointments at the next vacancy be secured for the dental profession, and would urge upon the Council that proper application to that effect be made in the proper quarter." This is a definite and emphatic promise, and if fortunately this gentleman be elected, we shall watch with interest the manner of its reception by the Council generally. The last nominee of the Crown was a most desirable accession to the Medical Council, but the fact that his nomination was cut and dry before the last vacancy rendered any immediate action on our claims quite impossible. The want of such a specialist as Mr. Thorne had long been felt, and it was only to be expected that the first opportunity of supplying that want should be taken advantage of by the Council. The remaining candidates are gentlemen who have taken an active interest in medical politics for a more or less lengthened period, and no doubt they are worthy of the honour to which they aspire, but their canvass affords an interesting example of that want of discipline and cohesion amongst the members of the medical profession which is so conspicuous in all their movements, and which may be explained as the outcome of following details instead of principles. It is, however, satisfactory to notice the prevailing belief amongst these in the need of dental representation. It is also to be noted that in none of the addresses in which reference is made to amendments in the existing Medical Acts is there any place found for the wants of the dentist. This indicates clearly to us that, although the necessity of representation is conceded in some quarters, we have yet before us the task of securing a position in changes that may be achieved in medical legislation. This position was accorded to us, and would still have been ours but for the miserable failure of the Medical Bill of 1878. It is, however, gratifying to think that we are making satisfactory progress, although at present we may be considered an insignificant minority, and that the time may not be far distant when even the Parliamentary Committee of the British Medical Association may think us worthy of some consideration.

Notwithstanding the retention of the medical curriculum and the increased requirements made on the dental students by the dental examiners our entries for the double qualifications increase satisfactorily. Even in the present state of the Medical Register, our organisation gives us a position, in such elections as the present, which demands some consideration, and the time is not far distant when we shall assuredly become a distinct power and possess an influence of our own in the balance of parties. It was not without good reason that a speaker at our recent annual dinner said that it would be better to have us as friends than as enemies in the thorny field of politics.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

Southern Counties Branch.

THE next meeting will be held at the Town Hall, Guildford, on Saturday, October 24, 1896.

1.15 p.m.—Mr. King kindly invites the President and Council to luncheon.

2.15 p.m.—Council Meeting.

3.15 p.m.—General Meeting. The President will re-open the discussion on Mr. Gill's paper on "The Advisability of Branches undertaking their own Prosecutions in Cases of alleged Infringement of the Dentists Act" (see Journal for August, 1896). A paper on "A Simple Method of making Collar Crowns," by Vernon Knowles, L.D.S.Eng. Casual Communications.

6 p.m.—Dinner (tickets 4s. 6d.) at the Angel Hotel. Members intending to be present should notify the Hon. Secretary on or before October 19.

FRANK V. RICHARDSON.
1, *Sillwood Road, Brighton.* *Hon. Sec.*

Midland Counties Branch.

THE Autumnal Meeting of the members of this Branch will be held at the Crescent Hotel, Buxton, on Saturday, October 24.

There will be a meeting of the Council at 3 p.m., and the General Meeting will commence at 6 o'clock.

Papers will be read on the following subjects :—

"Some Points on Gold Filling," by J. P. HEADRIDGE, L.D.S.Eng., B.Sc.Lond., D.D.S.

"Some Cases of Antral Abscess," by W. A. HOOTON, M.R.C.S., L.D.S.Eng.

"Fractures of the Inferior Maxilla," by A. A. MATTHEWS, L.D.S.Eng.

"On Cervical Gum Traction to facilitate Plugging Labial Cavities," by A. P. WALLIS, L.D.S.I.

G. BRUNTON will show a new cutting and polishing material for natural and mineral teeth, and also for the preparation of microsections.

Tea will be provided for the members at the hotel at 5 o'clock, 2s. 6d. each.

Members desirous of spending the week end at Buxton should write the Manager of the Hotel to secure beds.

I. RENSHAW, *Hon. Sec.*

Rochdale.

Benevolent Fund.

THE following amounts have been received since the publication of the last list (July issue).

New Subscriptions.

Lipscomb, J. Moore, Dundonald Road, Kilmarnock ...	£1	1	0
Parrott, J. E., 23, Waterloo Street, Birmingham (per A. T. Hilder, Local Representative)	0	10	6
Simms, W., 2, New Bury Road, Strangeways, Manchester...	1	1	0
Ackery, J., 11, Queen Anne Street (additional, as promised at annual dinner)	1	1	0
Craig, J. T., 7, Belvoir Street, Leicester (per A. T. Hilder, Local Representative)...	0	10	6
Nicholls, R. E., 8, Devonshire Street, Portland Place, W. ...	0	10	6
Apperson, J. T., 19, Hamstead Road, Birmingham	1	1	0
Husbands, J. E., Vale House, Canterbury	0	10	6
Gabriel, W. M., 72, Ludgate Hill (additional)	0	10	6
(Per W. Campbell, Dundee, Local Representative) :—			
Robb, Andrew, 63, Gellatly Street, Dundee	0	10	6
Walker, P. S., 23, High Street, Dundee...	1	1	0
Campbell, Dr. W. Graham, 27, S. Tay Street, Dundee	1	1	0
Gorrie, Peter, 148, Nethergate, Dundee	0	10	6
Platt and Cammorr, 64, Murray Place, Stirling... ...	1	1	0
Small, D. M., Tay Street, Dundee	3	3	0
Ritchie, T. P., 63, Redcliff Hill, Bristol	1	1	0

Donations.

Central Counties Branch, British Dental Association (per A. T. Hilder, collected at Meeting, July 11, 1896) ...	1	7	0
Peacock, C. J., 56, Grosvenor Street, W.	10	10	0
Hughes, Morgan, Eastbridge, Addiscombe Road, Croydon...	1	1	0
P. W.	1	1	0
Mechan, A. R., 9, Hawkhill, Dundee (per W. Campbell, Local Representative)	0	10	6
(As per promises at Annual Dinner) :—			
Kluht, H. J., 156, Westbourne Grove, W.	1	1	0
Ackery, J., 11, Queen Anne Street	5	5	0
Vickery, A., 10, Warwick Row, Coventry	0	10	6
Annual Meeting in London :—			
At the Annual Dinner	14	19	6

At Smoking Concert (per G. Cunningham)	£5	3	6
In box in Meeting Rooms	5	10	3
On steamer to Richmond (per G. Cunningham)	1	11	6
	*£27	4	9

* In addition to the above cash receipts at the Annual General Meeting, there were :—

Promised donations	25	19	6
Promised new annual subscriptions	10	15	0
	£36	14	6

Or in all, a total of £63 19s. 3d.

Several gentlemen also promised to give their share of any surplus from the Guarantee Fund for the Annual Meeting. Further promises of a like nature will be gladly received by

JOHN ACKERY,
Hon. Sec.

11, *Queen Anne Street*,
Cavendish Square, *W.*

Original Communications.

On some Essential Points in Administering Anæsthetics for Dental Operations; with Special Reference to the Subject of Posture.†

By FREDERIC HEWITT, M.A., M.D.Cantab.

ANÆSTHETIST AT THE LONDON HOSPITAL, CHARING CROSS HOSPITAL, AND THE DENTAL HOSPITAL OF LONDON.

GENTLEMEN,—In order that we may obtain the best results with the anæsthetics at our disposal, it is essential that we should attend to numerous practical points. Many of these have been, from time to time, discussed before this Association, and with them you are familiar. But there are certain others which have not received the attention to which they are entitled, and with your permission I will endeavour to lay these before you. It is unfortunate that empirical knowledge is, comparatively speaking, difficult of transmission and diffusion. But at meetings of this kind it seems to me that it is the duty of everyone who has had experience, and who has, in consequence, formulated certain principles for his own guidance, to bring such principles and views before others for their consideration and criticism. I regret that, in my own case, the communication I have to make is not more worthy of the occasion, but I make it with the hope that it may, at all events, provide material for reflection, and thus indirectly lead to greater perfection in our methods.

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† A Demonstration given at the Annual Meeting of the British Dental Association, 1896.

Posture.—My attention was first drawn to the importance of posture in administering anæsthetics for dental operations by observing that without any variation in my methods I did not obtain quite such good results, so far as anæsthesia was concerned, with certain operators as with others. This naturally led me to inquire what these differences might be due to, and I soon found that they were dependent upon the different postures employed by different surgeons. To corroborate this view I took the opportunity which the Dental Hospital afforded of administering the same kind of anæsthetic in precisely the same way to the same patient on different occasions, at one time employing one posture and at another time another. Certain postures were thus found to produce more or less constant influences, so that it became possible, when these postures were adopted, to foretell the occurrence, or absence, of certain phenomena during the administration.

At the close of last year, Mr. Marmaduke Sheild and I read before the Royal Medical and Chirurgical Society, a paper entitled "Posture in its Relation to Surgical Operations under Anæsthetics";* and in that paper we considered the subject in its widest aspects, making no special reference to dental surgery. To the dental practitioner, however, the question of posture is undoubtedly one of special importance; for, in order that he may properly perform his operation, he may require the patient's head and body so adjusted that the posture may materially modify the phenomena of anæsthesia, and thereby interfere with the success of the operation. Under certain circumstances, indeed, to which I shall presently allude, the posture of the patient may be such that an exceedingly unsatisfactory type of anæsthesia results, even though the most appropriate anæsthetic be chosen, and that anæsthetic most carefully and skilfully administered. A faulty posture may in this way lead to dangerous symptoms, the true origin and significance of which, I am fully convinced, are frequently misunderstood.

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* *Transactions Royal Medical Chirurgical Society*, vol. 79.

One of the chief points to which Mr. Sheild and I referred in our paper was the advisability, in administering anæsthetics, of preserving, as far as possible, the natural relations between the patient's head and body. We showed that there were objections not only to extending the head upon the spine, but to flexing it upon the sternum. When the head is thrown backwards, the body remaining more or less vertical, an uncomfortable posture results. The extension causes the base of the tongue and the epiglottis, which are the natural protectors of the laryngeal aperture, to recede from the pharynx and larynx respectively, so that not only is the act of swallowing rendered difficult, or even impossible, but the unprotected larynx is liable to be irritated and invaded by substances which, under ordinary circumstances, would find their way into the œsophagus and stomach.

Swallowing movements are not uncommon during the administration of anæsthetics, more particularly in the case of operations within or about the mouth, and if they cannot freely take place in response to the stimuli which produce them the success of the administration may easily be compromised. If the patient be conscious, the difficulty or impossibility in swallowing may give him great discomfort, and possibly create a feeling of alarm. If he be unconscious, the futile attempts at deglutition may initiate respiratory difficulties. It is true that in the most profound states of anæsthesia the act of deglutition cannot take place; but in dental operations such states are neither requisite nor, as a general rule, advisable, save perhaps just at the commencement of the operation. Acts of swallowing constitute one of the best safeguards during anæsthesia in mouth and nose operations, and, by proper management, the degree of anæsthesia may usually be so regulated that such acts can take place although the patient is perfectly quiet under the hand of the surgeon.

The patency of the larynx, which is brought about by throwing the head back upon the spine is, for obvious reasons, open to much objection in dental operations. Not only is the larynx liable to be irritated by natural secretions (mucus and saliva), but foreign substances, such as blood, pus, vomited matters, extracted teeth, roots, stoppings, or fragments of forceps, may readily enter it. When the head retains its natural relations to the trunk, and swallowing is possible, all these substances are usually passed on by deglutition movements, and no difficulty arises. It is this fact which doubtless explains the infrequency of dangerous symptoms from the presence of foreign bodies in the mouth, and it is this fact which should make us careful to preserve the natural relations whenever possible.

Flexion of the head upon the sternum has the effect of bringing the tongue into contact with the pharynx, so that stertor and obstructed breathing are favoured.

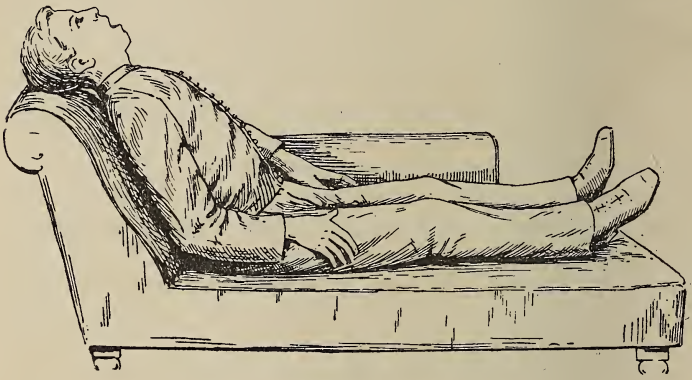


FIG. 1.

Having said as much as this by way of introduction, I now propose to refer, first of all to the worst, and then to the best positions for administering anæsthetics for dental operations. I hope to be able to show that it is possible, by a little management, to meet not only the wishes and requirements of the operator, but also those of the anæsthetist.

When a patient is about to be anæsthetised for a dental operation at his own house, a posture similar to that represented in fig. 1 is often employed. This is, I believe, the worst possible posture for such an operation. I would even go so far as to say that, when it is adopted, the probabilities are strongly in favour of complications, if not of dangers, arising. The posture is an uncomfortable one for the patient;

it is an unsatisfactory one for the anæsthetist; and it is usually an inconvenient one for the operator.

The following are the reasons why this posture is open to objection:—(1) It encourages swallowing, but the swallowing is rendered difficult or impossible. (2) It is difficult to accurately adapt a face-piece when the head is thus placed. (3) The valves of the inhaling apparatus which is necessarily tilted, have a tendency to act inefficiently, and so to allow air to gain admission. In this way excitement is likely to arise. (4) Stertor and obstructive breathing are favoured, so that not only may difficulty be met with in introducing sufficient quantities of the anæsthetic, but asphyxial symptoms may ensue. (5) Saliva, blood, and foreign substances, if any should escape into the mouth, will fall at once towards the fauces, and as the larynx is unprotected, and swallowing difficult or impossible, troubles from this source may be expected. I need not, I think, say more to convince you that the posture I have shown you is so bad that it should be altogether discarded from practice.

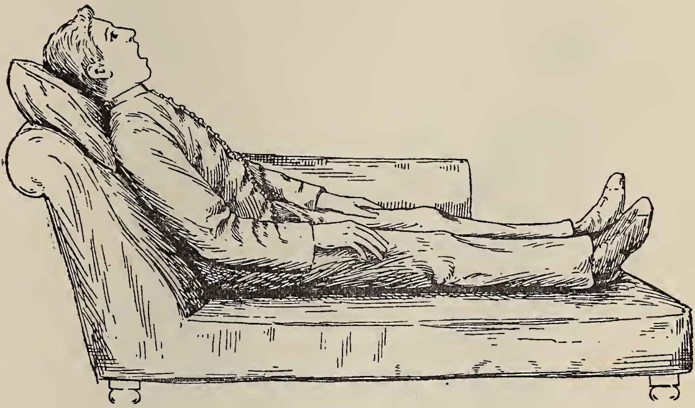


FIG. 2.

If the operation is to be conducted upon a couch, the patient's head should be first adjusted so that it is neither flexed nor extended (fig. 2); and should it be necessary, for the convenience of the operator, to have the head thrown back, this should not be done till the patient is fully anæsthetised. In this way far better results with the anæsthetic will be attained than if the patient be anæsthetised with the head extended. It must not be forgotten, however, that this semi-recumbent posture is not such a good one as the sitting posture, either for the administration of the anæsthetic or for the operation. As compared to the sitting posture it is inferior because the inclination of the whole body backwards has the effect of allowing the tongue to gravitate towards the pharynx, and thus to favour stertor. Early stertor cuts short the inhalation, and so leads to imperfect results. When the head and body are only slightly inclined beyond the vertical, as in fig. 4, the tongue rests upon the floor of the mouth, so that stertor is much less common than when the body is thrown back. Moreover, blood and any other foreign bodies which may escape into the oral cavity, find a resting-place on the tongue and floor of the mouth.

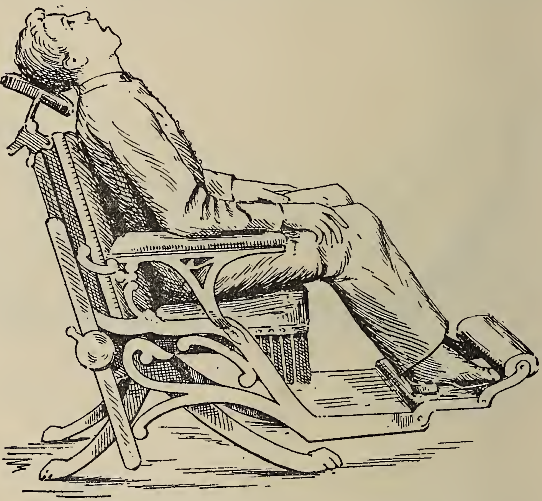


FIG. 3.

Coming now to the question of posture when a chair is employed, let me first deal with the very faulty position shown in fig. 3. I have already enumerated, when discussing the posture of fig. 1, the objections to the extension of the head and neck, and these forcibly apply to the posture now under consideration. However careful and competent the anæsthetist may be, it will be impossible for such uniform and good results to be obtained when the patient is thus placed as when the head is so adjusted that no extension occurs. Early stertor is very liable to arise and to greatly complicate the anæsthesia. Indeed, all the objections to which I have referred above may come into play.

I will now endeavour to show that by simple means it is possible to meet not only the requirements of those operators who desire to have the patient's head thrown back, but the convenience of the anæsthetist who, so far as the administration of the anæsthetic is concerned, cannot regard this position with favour.

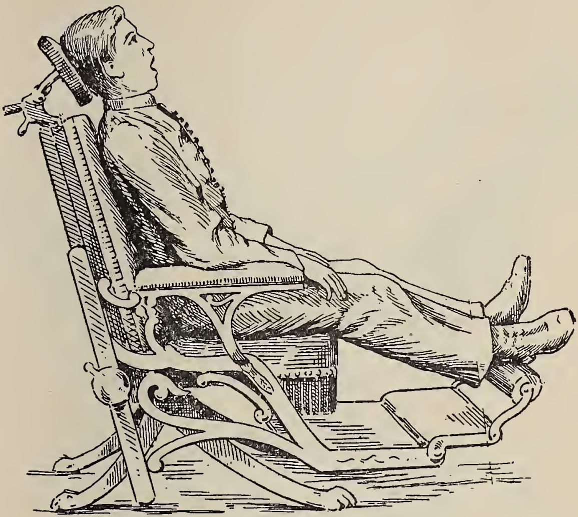


FIG. 4.

I have found by experience that the best posture for the administration of anæsthetics for dental operations is that represented in fig. 4.

It will be observed that the body is tilted slightly backwards, and that the head is so adjusted that it is in the axis of the body. I have, on several different occasions, questioned patients, and I find that they almost invariably prefer this to any other posture. It is, moreover, far easier to introduce a greater volume of nitrous oxide gas into the lungs when the patient is thus placed than when the postures of figs. 1, 2, and 3 are adopted; for in all of these obstructive stertor is liable to arise comparatively early in the administration, and to prevent a long inhalation. Another great advantage of this posture is that it does not interfere with deglutition. Lastly, it is one in which the presence of blood and other foreign bodies in the mouth is least open to objection. Should a tooth or root jump from the forceps, or crumble up when seized; should a loose stopping be dislodged; or should the forceps break; the chances are very strongly against any dangerous symptoms arising, for the loose body will, in all probability, fall upon the tongue or floor of the mouth. Even if it shoot backwards it will in all probability be swallowed, for reasons already given.

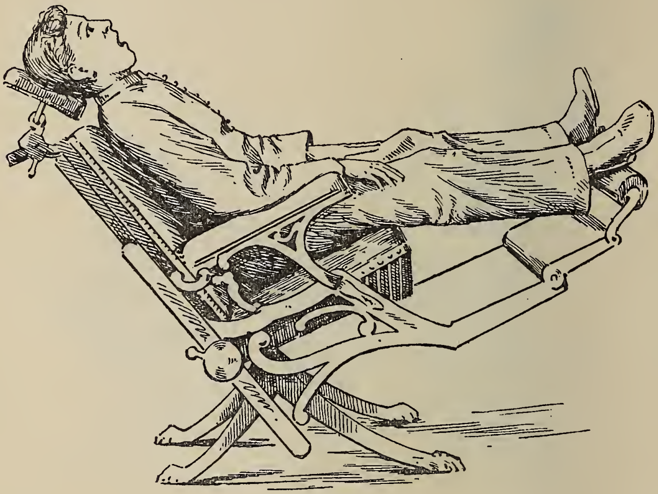


FIG. 5.

There is, however, another important side to the question, and this must be considered. Many operators prefer to have the head thrown back, more particularly during the removal of upper teeth. Some even like to have the head completely thrown back for the extraction of lower teeth, and the question which presents itself is—how can their wishes be met without interfering with the convenience of the anæsthetist?

One of the best ways of overcoming the difficulty is the following. If the dental chair is capable of being tilted backwards, the patient should be first anæsthetised in the posture of fig. 4, and, just before the face-piece is removed, the chair should be thrown back into the position shown in fig. 5. It will be seen that, although in this position the natural relations of the head and trunk are preserved, the head is so placed that upper teeth can be easily removed. Directly the operation is over, the chair is tilted forward, so that the sitting posture of fig. 4 is regained.

If the chair be not capable of thus being tilted, the following simple expedient will be found to answer well. The patient is first placed in such a posture that the upper tooth or teeth can be readily reached (fig. 3). When this has been done, a small air cushion is inserted between the head and the head-rest (fig. 6). The cushion which I use is about 13 in. long by $9\frac{1}{2}$ in. wide, and is furnished with an air-valve of large calibre. The cushion is inflated to such a size that, when in position, the head is in a line with the body, as in the drawing. The anæsthetic is now given. Immediately before the face-piece is removed the cushion is deflated, and the

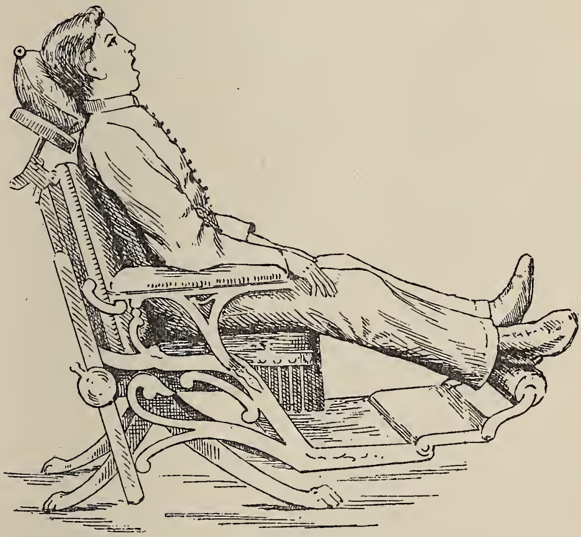


FIG. 6.

head falls back into the position required by the operator (fig. 3). By this simple contrivance I have found it possible to make the patient comfortable, to get good results with the anæsthetic, and to meet the wishes of all operators.

Before dismissing the subject of posture, I may say a word as to the danger of allowing the patient to place his feet under the foot-rail of the chair, as shown in fig. 3. Should any movement occur during unconsciousness, the entanglement of the feet in the foot-rest might lead to serious consequences. In the case of tall patients of both sexes, and more particularly in the case of tall, athletic men, it is best for the patient's legs to be straight (*i.e.*, not flexed), and for the feet either to rest on the foot-rest, as shown in fig. 4, or upon the ground. Reflex muscular rigidity is not uncommon in such subjects under nitrous oxide, and if the legs are bent, or the feet are pressed against the foot-rest, straightening of the body may have the effect of making the head pass out of and over the head-rest; whereas if the legs are outstretched this does not occur.

The preceding remarks on posture apply almost exclusively to the administration of nitrous oxide, nitrous oxide and oxygen, nitrous oxide and ether, or ether alone. When chloroform is used, the horizontal posture is generally regarded as essential. When proceeding to deep ether anæsthesia for the removal of several teeth, the posture of fig. 4 is certainly the best for the administration; should it be necessary, for the operator's convenience, to have the head thrown backwards, it is best to tilt the whole chair as already suggested, or the head-rest may be lowered directly the lower teeth have been removed.

Loosening the Corsets and other Constricting Clothing.—In order that the best results may be obtained, it is absolutely necessary that the corsets should be unfastened. It is true that it is possible to obtain fair results, in most cases, without this precaution having been adopted; but I would submit that this should not be urged as an argument against its being enforced. The additional trouble to which the patient is put is more than counterbalanced by the comfort experienced and the satisfactory nature of the anæsthesia. Some operators, and, I regret to say, some anæsthetists, regard the precaution as superfluous, but I cannot understand upon what grounds.

I hope shortly to publish the results which I have obtained with accurately-known percentages of air and of oxygen with nitrous oxide, and in these I shall be able to show that I met with much better results (other factors remaining the same) when the corsets were unfastened than when this precaution was not taken. The chief reason for this difference undoubtedly is that patients with tightly-fitting corsets or waistbands cannot quickly fill the bases of their lungs with nitrous oxide. Excitement and delay in the production of anæsthesia are hence liable to arise owing to the admixture of residual air with the anæsthetic.

The Use of Sponges during the Extraction of Teeth under Anæsthetics.—When several teeth have to be removed under ether I find it very useful to have at hand a few sponges of particular size, shape, and coarseness. It is best to have three pieces each about the size, when moistened, of a Tangerine orange, and two pieces the size of a large orange. All should be more or less spherical in shape and rather but not too coarse. They should have no loose edges. It is a good plan to have the three small (throat) sponges attached to one another by catgut or whip-cord. When the patient has been placed under ether to such an extent that the anæsthesia produced will be sufficient for the whole operation, the mouth is opened by a Mason's gag, and one of the smaller sponges is loosely placed in position at the back of the throat. Breathing takes place either through the nose or through the open meshes of the sponge. All blood is absorbed by the sponge. Should any teeth or roots escape into the mouth, they are similarly arrested. If the sponge becomes saturated with blood it is replaced by one of the others.

When the operation is more extensive, and both sides of the mouth have to be operated upon, I find the two larger sponges of great service. I use them in the following way. The patient is thoroughly anæsthetised, and the Mason's gag inserted, let us say, on the left side. One of the small throat sponges is now placed in position, if the operator is desirous of having the patient's head thrown back; otherwise no throat sponge is used. The right lower and then the right upper teeth are now removed. One of the large sponges is then tightly plugged between the two bleeding surfaces. The Mason's gag is now changed to the right side, where it helps to keep the large sponge in good position. The left side of the mouth is now ready for the second half of the operation. When this has been completed the other large sponge is similiarly plugged into that side. If a throat sponge has been used it is now withdrawn; and as the patient comes round the two large sponges are taken away also.

By these simple measures the swallowing of blood is prevented; less blood is lost than would otherwise be the case; respiration is in no way interfered with; and the clothing of the patient is kept clean. It is quite possible that there is nothing novel in these suggestions, and if so I must ask to be excused in making them. But as I can find no reference to the simple plans mentioned, and as they undoubtedly contribute to success in anæsthetising, I thought I would bring them before you.

Recent Improvements in Apparatus.—The nitrous oxide and oxygen apparatus which I have on previous occasions shown before this Association continues to give satisfactory results. Experience has established the fact that its valves require careful attention from time to time. They should work perfectly freely and accurately, and if they become inelastic should at once be replaced by new ones. With the object of facilitating the examination and renewal of valves, Messrs. Barth and Co., are, at my suggestion, now making the apparatus in such a way that the valves can be put in and taken out with the utmost facility. In the older pattern it was difficult to reach the main inspiratory valve. Now this and the other valves can, if desired, be removed and replaced by new ones kept in reserve.

I have also lately devised a combined cylinder-stand and union for use in administering nitrous oxide and oxygen (fig. 7). In putting the cylinders together no spanner is required. The two nitrous oxide cylinders lie side by side, and the oxygen cylinder is placed on the top of and between them. The union joining the three cylinders is so constructed that the oxygen passes along a small tube placed inside, and in the centre of the tube conveying the nitrous oxide from the nitrous oxide cylinders. It is thus easy to adapt the two rubber tubes (also one inside the other, for the transmission of the gases to the double bag) to this union. An external spiral wire prevents this double rubber tube from kinking at the point at which it is attached to the double metal mount. The pressure brought to bear when the foot-key of the oxygen cylinder is being turned is prevented from telling injuriously upon the joints of the union by means of a little adjustable pillar below, which directly transmits the pressure exerted by the foot to the stand beneath.

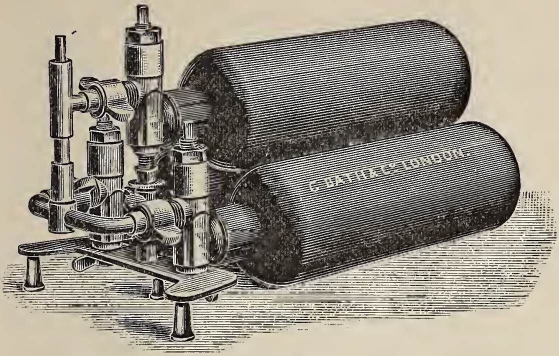

C. BARTH & Co LONDON.

Fig. 7.

Eucain in Dentistry.

By J. TURNER, F.R.C.S., L.R.C.P., L.D.S.

Eucain has recently been proposed by German authors as a local anæsthetic of especial value in dental surgery. It is to be injected near the tooth to be extracted, and it is claimed that it is certain in action, while free from unpleasant effects on the heart. Its solutions are said to be very stable and hence capable of sterilisation. Swelling is mentioned as an occasional consequence of its injection.

In my hands it has not come up to these promises. The cases detailed below seem to show that it is uncertain in its action, and very liable to be followed by very considerable and disfiguring swelling; while in the last case the eucain may have been the cause of the symptoms. In the other cases no action on the heart was observed.

In all cases the solutions were made with boiled water in sterilised vessels, and the syringe and part to be injected cleaned with carbolic lotion 1-20. The strength of solution was gr. i. in ♏x. of water. It was injected into the soft parts of the sulcus at the reflection of the mucous membrane of the jaw on to the cheek. The mucous membrane of the jaw was found too intimately connected with the periosteum to admit of injection immediately beneath it; while stripping up the periosteum by forcing fluid between it and the bone is liable to be followed by necrosis, besides the difficulty of introducing the needle. The solution was injected in two parts, 1 minute interval being allowed; and 4 or 5 minutes (the time mentioned in the circular) were given for anæsthesia to develop, counted from the end of the injection.

Some of the patients complained of pain on the fluid entering.

CASES.

"Living" and "dead" refer to the pulp.

M., 2½ gr., living molar; no pain; great swelling followed, still visible one week after.

F., 2½ gr., living molar; some pain.

M., 2½ gr., dead molar; great pain.

M., 2½ gr., scraping chronic abscess of bone; much pain; great swelling, which began to subside on the fourth day.

M., 3 gr., living molar; great pain.

M., 3 gr., molar roots; much pain; swelling, lasting one week.

M., 4 gr., dead, inflamed, molar; no pain.

F., 4 gr., living molar, great pain; swelling, visible one week after.

M., 4 gr., living bicuspid; great pain.

M., 4 gr., dead, inflamed, canine; some pain; great swelling followed.

M., 5 gr., dead, inflamed, molar; no pain; swelling followed.

M., 5 gr., molar stumps; no pain; great swelling followed.

M., 5 gr., living molar; considerable pain.

M., 5 gr., dead, inflamed, bicuspid; great pain.

F., 5 gr., scraping chronic abscess of bone; no pain except at one spot; great swelling followed, lasting ten days.

M., 5 gr., living molar, inflamed peridental membrane, considerable pain.

F., aged 15, 5 gr., living lower molar, great pain, 5 minutes' exposure. After leaving the room, about 10 minutes after the extraction, she suddenly fell, bruising her face. There were clonic movements of the arms, the pulse was infrequent and almost imperceptible, and she was quite unconscious. The pulse soon improved and consciousness began to return, but she lay for an hour heedless of what was going on around. In this state she could be roused by a loud voice; the lid-reflexes were present, and the pupils equal, active, and somewhat dilated (she lay behind a screen). She was allowed to go home in 1½ hours, apparently well, and has not been heard of since. She denied having had fits of any kind before. The patients were chiefly hospital patients, who were asked to report themselves one week later.

That eucain has a local anæsthetic action is certain. Injected under the skin of the fore-arm 1½ gr. produced a wheal 1½ inch long (slightly longer than the needle track) and ½ inch wide, becoming anæsthetic in 1½ min. and remaining so one hour. The reason of its failure in so many of the above cases may be that the fluid pressure of the injected solution is not great enough to induce absorption by the bone, through which alone the tooth can be reached.

The eucain used was the same throughout: that made by the Chemische Fabrik auf Aktien, vormals E. Schering, Berlin.

DEMONSTRATIONS AT THE ANNUAL GENERAL MEETING.

Büttner-Downie Crowns.

By J. H. BADCOCK, M.R.C.S., L.R.C.P., L.D.S.Eng.

The root canal of a right upper central having been previously prepared, the demonstrator proceeded to ream it to the required size. The root was then cut down flat to the level of the gum and trephined, Büttner's instruments No. 5 being used throughout. The root, in this case, happened to be unusually small. Special stress was laid on the importance of selecting a trephine of such a size that, when sunk to the requisite depth, no part of its circumference should project beyond the cementum. By paying attention to this point the operation was rendered practically bloodless, and pain reduced to the minimum.

As the section of the root was somewhat triangular, small pieces of enamel and dentine remained beyond the ring made by the trephine. These were split off with a fine chisel inserted into the groove and slightly rotated. Owing to the tapering of the root towards the apex, the resulting edge was almost inappreciable. A Büttner's impression cap was then placed on the root, and an impression taken with a small piece of Stent's composition, into which the patient was allowed to bite. On removal from the mouth, the cap, which remained behind, was replaced in the Stent, and the brass cylinder inserted ready for casting in plaster. For the construction of the crown, a platinum Büttner cap was used, the pin of which projected through the coronal surface about three-sixteenths of an inch, and the rest done according to the Downie method; *i.e.*, an Ash's pin-tooth was fitted to the cap, overlapping the band entirely, so that no platinum was visible from the front. The tooth was retained in position by bending its pins round the post, and its back was built up with Ash's porcelain body, and fused in Ash's bridge furnace. The result was a porcelain crown, perfect in appearance in front and behind, translucent and strong.

In order to save the time that would have been spent in fitting the tooth, another had already been prepared for the other central in the same mouth, and this was fixed with Poulson's liquid phosphat-plombe cement.

The method of using the Downie and Ash's furnaces and bodies was shown, the operator giving preference to Ash's, as, in his opinion, this body is more adherent to the porcelain, and can be cut and polished with greater impunity. It is made in the chief shades of Ash's teeth.

Mr. Badcock claimed for the crown that it was very strong, of good appearance, and easily made, with the infliction of much less pain, and the expenditure of much less time than any other form of cap crown. Moreover, if, with advancing years the gum should recede, no metal would become visible. The crown fits entirely beneath the free edge of the gum, and presents no edge that can possibly cause irritation, the margin of the gum keeping its normal pink colour after years of wear.

A Method of Making Platinum and Porcelain Crowns.

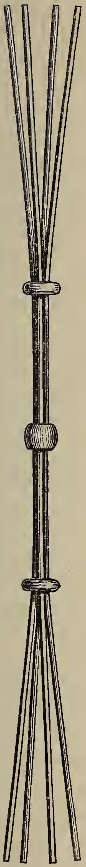
By HARRY ROSE, L.D.S.Eng.

The various stages in the manufacture of platinum and porcelain crowns were explained, the demonstrator commencing with the mode of making the platinum collar. This he advised should be of No. 3 or 4 gauge soft platinum, and be soldered with fine gold. To prevent the gold from flowing away from the joint, and running over the collar as sometimes happens, a little common whitening may be painted on the collar, so as only to leave the joint exposed; this simple plan entirely does away with that difficulty.

To make the pattern for the piece of platinum that covers the root and forms the cap, take a small piece of paper and press it on the top of the collar, this will leave a mark on the paper corresponding to the size of the surface of the root. This should be carefully cut out and a corresponding piece of platinum cut out to the pattern.

The next thing is to adjust the piece of platinum within the collar and on to the surface of the root; this being done, the two should be cemented together with hard wax and carefully invested in brickdust and plaster; the investment should be introduced very carefully into the interior of the collar, so as to prevent any of the fine gold used as solder from flowing through, and so destroying its sharpness. The same precaution as before may be adopted, that is, the platinum cap can be painted in the centre with whitening, leaving only the circumference for the gold to flow around. After making red hot over a Bunsen burner, the cap is soldered to the collar with the blowpipe.

After the investment is cleared away, the covering of the root, now called the cap, is placed in dilute hot H_2SO_4 for a short time to clean it, and it is then ready for the next process, which is to roughen the outer circumferance of the collar with a sharp graver. To effect this without in any way damaging the fit, a good plan is to soften a piece of composition and press it into the collar and allow it to harden; the roughening can then be done without fear of bending the cap. The next process is to cut down the collar to the bite, and then to trim away the front part and fit the tooth. I might here remark that it does not matter whether the tooth has pins in or not, or whether it is only a plain piece of mineral fitted into position; the sole use of the pins in a tooth is that they may be bent down and tacked to the cap with a little fine gold, in order that the tooth may not be displaced when building up the body, to form a masticating surface. After the tooth has been fitted to the collar and to the surface of the root or cap, it should be painted, as well as the outside of the collar, with a thin coating of enamel and allowed to dry, and then a thin layer of body is painted with a camel hair pencil over the enamel.



In order to accomplish this operation neatly, Mr. Rose has devised a simple little instrument about four inches long, consisting of four lengths of pianoforte wire, soldered together in the middle with soft solder, and furnished with two little rings to slide up and down, one on each side of the soldered part; these allow of the ends of the wire being spread apart to spring into the interior of the collar, and form a handle to hold it by (*see* fig.), and then after the operation of building up the shape of the tooth is completed, the ring being drawn towards the end contracts the wires again, and allows the collar to slip off. After the thin layer of body material has been painted over the layer of enamel, the tooth is built to the required form with more body, and dried.

A small platinum tray with a little silex at the bottom is next taken, and the crown is placed in it and covered all over with silex, and after being given about three minutes at a red heat in the muffle, is removed and allowed to cool. The investing silex is then brushed away and the crown trimmed up. If there is too much body at any part it can be trimmed off with a corundum wheel; if an addition is required, or any cracks require filling up, a little body can be pressed into them. This second addition of body does not require a second firing, all one has to do when the addition is made, is to paint over it a layer of enamel the proper shade required. This should be put on with a small soft camel hair pencil, so that the added body material is not disturbed. The crown is now ready to be fired for the second time, and we must take the precaution that no silex comes in contact with it, otherwise it will adhere to the enamel on the collar and make the edge rough. About two minutes or less in the furnace at a red heat will suffice to fuse the enamel. A small piece of platinum wire bent round in a loop at the end, and covered with a small amount of the mineral body, makes a very good test piece, and can be withdrawn or inserted readily; but with a little practice there is no occasion for a test. The materials used are modifications only as regards the colour of the mineral body and gum enamel, introduced five years ago by me for continuous gum work. For this kind of work I consider it absolutely necessary, if one wishes to avoid risk and prevent disappointment, that the material used should be free from shrinkage, and retain any shape that it may be built up into; without this qualification we should be simply going over the same dangerous ground as in the past, and find this kind of work just as unsatisfactory and full of risks.

Construction of Molar and Bicuspid Porcelain Crowns, using the Downie Furnace.

By W. J. MAY, L.D.S.Eng.

The method advocated was as follows:—

Molars.—The root of the tooth to be crowned is ground nearly flush with the gum, a platinum collar fitted and diaphragm soldered with pure gold. (Coin gold should not be used, because it destroys the colour of any gum enamel that may be applied.) One or two pins, preferably iridio-platinum, should pass through the diaphragm into the roots, the projecting end being bent down so as to lie parallel with the surface of the diaphragm. These pins, which serve to hold the porcelain to the diaphragm, need not be soldered if they pass a little way into the roots. The pins are waxed to the cap, and an impression of neighbouring teeth and bite are taken, with the pin and cap in position. This having been cast, either a pin or a diatoric molar is ground from the fit surface until only the cusps and buccal surfaces remain. This is waxed to the cap and invested in sand and silex. The wax is boiled out and then baked out at a red heat in the furnace, to make certain that no trace remains. The porcelain body is then run into position in rather a moist condition, and fused in the furnace. After the first baking the investment may be removed, and the second portion of body fused, without fear of the relative position of tooth and cap being altered.

The Downie body can be ground, and if it has been well fused a fair polish obtained by means of a buff polisher or the lathe.

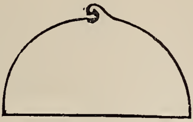
In investing a molar it is a good plan to include a strip of platinum in the investment, in case it should give way whilst the body is being packed in.

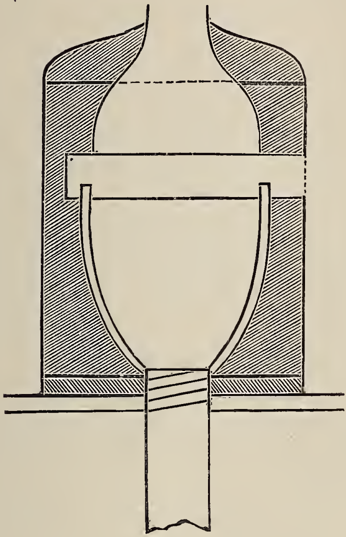
Bicuspid crowns are constructed in practically the same way as molars, either pin or diatoric teeth being used. The difficulty with diatoric bicuspids, as with molars, arises from the fact that they are not made large enough to be useful in many cases, otherwise they would do equally as well.

How to Make a Small Furnace for Baking Porcelain.

By WILLIAM RUSHTON, L.D.S.Eng.

The mode of procedure recommended is as follows:—First obtain from a wood-turner a hollow cylinder of wood, 4½ inches long, inside diameter 3 inches, sides $\frac{3}{16}$ inch thick, open at the top, but having a bottom ½ an inch thick. Let this pattern be cast in iron, and let a round hole be drilled in the side, the centre being 3¼ inches from the bottom, and another hole be drilled through the middle of the bottom. The hole in the side should be 1 inch in diameter, and is for the mouth of the muffle; the hole through the bottom is to admit the nozzle of a Fletcher's injector blowpipe. Let the nozzle of the blowpipe be tapped for about ¾ inch down, and let the bottom hole of the furnace be threaded, so as to allow the blowpipe to be screwed into it. Let the leg of the blowpipe nearest the nozzle be filed off. Next obtain one of Morgan's plumbago crucibles, 3 inches high, and 2½ inches in diameter. With the sharp end of a riveting hammer chip a hole in the bottom of the crucible, and with a file enlarge the hole to the diameter of the blowpipe. Next obtain a piece of platinum foil, 3½ by 3 inches, of the thickness usually employed to cover roots in pivoting. Bend it in this fashion,





with the ends interlocked, and hammer the ends closely down to prevent gasing. We now have a platinum muffle, 3½ inches long, with a flat bottom, ⅞ inch wide, dome-shaped top, and open at both ends. At one end make a few cuts with scissors into the dome-shaped part, to allow of the end being closed by bending the platinum down at right angles. Now place the crucible in the furnace, and file it down where the muffle goes until by passing the muffle through the hole in the side of the furnace it rests on the crucible on a level with the middle of the hole. Now sink the crucible on the bottom of the furnace with sand and plaster, taking care to keep the hole free; then mix some fresh sand and plaster, and place it round the ends of the muffle now placed in position, taking care to imbed the far end in the investment. Build the investment up somewhat dome-shaped, allowing $\frac{3}{4}$ inch between the investment and the muffle on each side, and having about $1\frac{1}{4}$ inch aperture above. Let the part of the muffle that projects from the hole in the side be turned down flush; make a tray with another small piece of platinum foil. A door for the muffle can be made with a little sand and plaster, or fire-clay. This furnace is large enough for four teeth or a small bridge. With a hole drilled in the bench for the blowpipe to pass through, the furnace can be put together at will and kept out of the way when not wanted. The blowpipe can be used for melting gold, or other purposes of the workshop. A second plumbago crucible, with a half-inch hole knocked in the bottom and used as a funnel after the furnace is lighted, is an improvement. I am told that asbestos and plaster is better than sand and plaster, and also that fire-clay, four parts by bulk to one of sawdust, and made into a paste with silicate of soda (liquid silex), is better still. The total cost, exclusive of the foot-blower, should be under two pounds, the chief expense being the platinum.

Crowning front Teeth without Pins in the Root Canal, using only Band, Porcelain, and Downie Body at Back.

By G. O. WHITTAKER, L.D.S.Eng.

This demonstration consisted in preparing and fixing two crowns on the roots of two central incisors, using band only (without pin up the root canal), with porcelain front and Downie body at the back.

The success of this method depends on the special shaping of the root, the contouring of the band, and the Downie body at the back, thus producing a much stronger and more translucent tooth than with gold at the back.

In preparing the root the labial wall is ground down to the level of the gum, the enamel being chipped away beneath the gum with a fissure bur and enamel trimmer. The lingual wall is left intact, and as long as possible, taking into consideration the articulation of the lower teeth. The mesial and distal walls, instead of being cut parallel, are sloped towards the cutting edge of the tooth with a diamond disc. The band is finely fitted to the root in the mouth, having previously been fitted to a plaster model.

In fitting the band, the lingual side should be well contoured, so that the edge fits accurately the root beneath the gum, and does not press against the upper part of the enamel when letting the band forward over the labial wall. The band is driven beneath the gum by a strong foot plugger; thus owing to the mesial and distal side of the root sloping towards the crown, the higher the band is driven up, the tighter it grips the root.

The tooth is next adjusted and waxed into position, and then removed with the band and sunk in sand and plaster of Paris, a platinum diaphragm being soldered across, the pins being attached to it with pure gold. The soldering completed, the crown is removed from the sand and plaster, filled up at the back with Downie body, and cemented to the root. Specially prepared platinized gold (No. 4 gauge), should be used, as it withstands the heat necessary for fusing the Downie body.

The Newland-Pedley Crown.

By E. C. DIMOCK, L.D.S.Eng.

In this demonstration an endeavour was made to show the ease and rapidity with which one of these all-porcelain crowns could be adjusted.

The crown itself is separate from the German silver pin, and is made with an oval tubular hole in its axis, running nearly to the surface, into which the ready-made pin accurately fits.

Method of fitting Crown.—The root was ground down to the gum margin, the nerve canal reamed out, and the pin fitted into it. A suitable crown was next selected and placed on the pin, to see if its direction would be correct when fitted (if not the pin must be bent to the required angle). The crown was then fitted down similar in manner to the way one fits a tube tooth to a plate; the pin and crown being fixed with oxyphosphate cement.

Other methods of fixing these crowns were shown in specimens:—

(1) Bicuspid crown fixed to root with oxyphosphate cement,

with an amalgam joint, without any attempt at accurate fitting of crown (quick method).

(2) Bicuspid crown fitted to root, showing the forked pin generally required for the roots of first bicuspids.

(3) Lateral root fitted with a collar cap and porcelain crown, the crown and cap being fixed together with sulphur.

(4) Pins fixed in crowns by Lennox's fusible metal, sulphur, and oxyphosphate cement.

(5) Roots fitted with pins, ready for crowns.

Putting a Porcelain Facing on a Living Honey-Combed Incisor.

By P. HEADRIDGE, L.D.S.I.

The object of this operation is to improve the appearance of a honey-combed tooth without destroying the nerve.

In the case demonstrated the tooth was shortened as much as possible without cutting too near the pulp, as the tooth was found to be too frail towards the cutting edge to serve as a support for the porcelain face. (In cases where it is possible it is better to leave the palatal surface of the natural tooth entire, as a better support is given to the porcelain face and there is then less danger of fracture from pressure of the bite.) The labial surface was ground flat down to a line or so below the level of the gum. During the grinding the tooth was isolated by the rubber dam and a stream of ethyl chloride was kept playing upon it, thus rendering the operation nearly painless. The natural tooth thus prepared presented a flat labial surface and a flat surface at the cutting edge. A plaster impression of the tooth was taken and cast with fusible metal. A good thick vulcanite tooth (Ash's make) of the right shade was selected, and the pins cut off and the tooth fitted to the metal model. The shoulder of the vulcanite tooth was fitted to the flat surface at the cutting edge of the natural tooth, the fine fitting being accomplished in the mouth. Two holes were next drilled in the natural tooth on the labial surface, one on either side of the pulp chamber, and in doing this the demonstrator pointed out that they must not be drilled through to the palatal surface. A very narrow strip of platinum plate (No. 4 or 5), less than $\frac{1}{16}$ of an inch wide, was fitted so that an end dips into each hole. The mineral face was then smeared with wax in order to ascertain where the groove was to be cut for the platinum to be fused into.

After the groove had been cut the bent platinum pin was held in its place in the groove by a trace of wax. The mineral face, with the pin waxed to it, was next placed on the natural tooth to obtain the exact position in the mouth. The face was then removed with the platinum still waxed to it and a low fusing body placed round the platinum, so that when the body fused it filled up the groove and so fused the platinum pin securely into its place. The face, when baked was cemented with the natural tooth with an osteo-plastic. Special care must be taken that there is no undue pressure from the bite, and it is also advisable to leave the cement several days until it is thoroughly hardened. The edges may then be finished off and polished, and the operation thus completed.

Fitting a Dowel Crown to a Living Front Tooth, Working to a Model, and using, if Practicable, one of Ash's New Crowns.

By A. JONES, L.D.S.I., & R. P. LENNOX.

The demonstration by Messrs. Jones and Lennox showed their method of treating a living tooth, cuspid or incisor, the crown of which is too far gone for filling. With a saw arranged to cut at right angles to the frame, they cut off the crown level with the gum, keeping the saw blade cool by means of water from a syringe. In the particular case dealt with the patient was a female and the tooth was a right upper central. The crown being removed, the pulp was immediately extracted, whilst still deadened by the action of the saw and the cold water, by thrusting a Donaldson bristle, previously standing point downwards in carbolic acid, up the canal, twisting it round and withdrawing it with the pulp adhering, the patient not flinching at all. There was a little blood, which was carefully washed out; the canal was dried with hot air and finally by a hot platinum wire; the apex was sealed with chloro-percha on a shred of cotton-wool carried to the apex on the point of a pulp-canal cleanser and followed by a gutta-percha point; the root-face was trimmed to a convex form, the anterior edge being cut away to just beyond the gum margin, and the canal was prepared for the post. An impression of the root-face was then taken by Mr. Lennox's method and a model obtained in plaster, to which one of Ash's tube-crowns was fitted. The operators had hoped to be able to use a crown in which the tube was directed towards the cutting edge of the tooth as the canal is in nature, and so to avoid the necessity of bending the post. Unfortunately, crowns of this sort were not ready in time for the meeting. The post was accordingly bent to suit the ordinary tube-crown and soldered to the crown. Some base-plate gutta-percha was placed below the crown and heated, the crown being supported meanwhile by inserting the post into a light copper tube. The crown was then thrust home upon the root, and the gutta-percha having cooled, the superfluous portion was trimmed away with a sharp knife. Lastly, the root having been thoroughly dried, the crown was fixed by means of a shred of floss silk and thick gum mastic.

A Method of Repairing Bridge-work in the Mouth.

By H. BALDWIN, M.R.C.S., L.D.S.Eng.

Mr. Baldwin demonstrated the method of repairing bridge-work by soldering in the mouth. The case was that of a bridge extending from second molar to first bicuspid, and had the porcelain face of the first molar broken off; this Mr. Baldwin replaced by another porcelain face which he attached with pearl solder by means of a small soldering iron.

On the following day, Friday, August 14, Mr. Baldwin repeated the demonstration on another case; this one being a Richmond crown on an upper canine root which had the porcelain face broken off, and which he repaired by the same process.

The Use of the Downie Furnace.

By W. HERN, M.R.C.S., L.D.S.Eng.

This demonstration was given with a view of showing some of the various uses to which the Downie furnace can be put.

The following operations were demonstrated:—

(1) *How to lengthen a tooth* by soldering a small piece of

platinum to the lower pin, bending the platinum under the tooth to support the Downie body, of fusing and coating with festoon of pink gum.

(2) *How to shorten a tooth* by painting a crescentic festoon of pink gum on its buccal surface and fusing.

(3) A single front collar crown backed up with Downie body, having a small belt of pink gum fused on the collar in front.

(4) A Logan bicuspid crown with collar filled in with Ash's body, and pink gum fused over the front of collar.

(5) A molar collar crown having cusps from a vulcanite tooth fitted to the bite, filled in and supported by Downie body.

(6) A bridge carrying two front teeth on a collared canine, backed with Downie body and pink gum.

A Method of Preparing and Inserting Dove-tailed Porcelain Inlays.

By FRED. R. HOWARD, L.D.S.Eng.

The operation demonstrated consisted of the preparing of an interstitial cavity in an incisor tooth, and subsequently inserting and fixing of a dove-tailed porcelain inlay. The treatment is suitable in cases where a fair amount of strength above the lower border or cutting edge of the tooth may be relied on.

The first important point to notice is the inlay rod itself. This is a tapered porcelain stick some inch and three-quarters long, about a quarter of an inch broad at one end and rather less than an eighth at the other. The thickness varies also from a twelfth of an inch at the thickest end.

On section, then, it would appear to be oblong, but this is not so. The breadth on one side is slightly less than on the other, giving a slight dove-tail. Three of the surfaces of this rod are ground true on a flat stone, viz., the two edges and the broad side. From this, except for contouring purposes, the porcelain is not cut, but the cavity is cut by means of fissure burs and the special file to accommodate the rod along some portion of its length; the rod in this position pointing its thin end towards and in the mouth. If the fit is now accurate both on the lingual and labial aspect, the contouring of the porcelain commences by the cutting off back and front of the superfluous portions of the rod, and is complete when the bulk of the inlay is reduced very nearly to the actual contour desired. The approximal surface should be cut down to the level of the cavity edge, as this is obviously an easier matter before being inserted. Any good phosphate cement may be used for fixing, but all trimming should be deferred for some hours in order to give the cement ample time to set. The final stoning down may then be done, the finest possible grit being used for finishing. It is not advisable to use brush and pumice for polishing, as the bristles tend to whip out the cement. Teeth treated in this way over three years ago are now in perfect condition. The three points in favour of this treatment are:—(1) The repair to the tooth treated is almost invisible; (2) The inlay itself is self-supporting; and (3) geometric exactness is possible. It might be added that in cases of decay running deeply at the cervical edge, gold is used to build up that wall to the level of the gum.

The Use of Solila Gold in Large Cavities.

By G. NORTHCROFT, L.D.S.Eng., D.D.S.Mich.

This demonstration was undertaken to prove the special adaptability of Dr. de Trey's gold to large distal cavities, with the use of matrices.

The case selected was a large distal cavity in a right upper first bicuspid, the root of which had been treated and filled over a year ago. The operator applied the rubber dam, recommending the use of "Fernald's" frame, and proceeded to apply a Lennox matrix, which was claimed to be the best for most purposes. In this case, the ordinary bands supplied not being broad enough, a specially broad one of German silver was applied. The absolute necessity of using the specially prepared pluggers suggested by de Trey was then touched upon, a few finer points with the same style of serration being shown. Dipping the points in chloroform to remove all traces of grease was also considered advisable. The gold was then cut into square pieces, and annealed on a sheet of mica, the gold being held in specially constructed tweezers and cut with sharp scissors (a razor may be used). Commencing with large slightly annealed pieces of No. 1 (which was used throughout the operation), and large ended instruments, the gold was packed into place by hand pressure of a peculiar type adapted for this form of gold, the solidness of the filling being tested from time to time with finer pointed pluggers.

It was explained that special points in the automatic mallet could be used from time to time, but no mallet was used in this case, the operator claiming that a perfectly hard surface could be obtained without its use. It was stated that great care was necessary, both in the handling of the gold and in its insertion, the demonstrator seeming to think that the property of packing like amalgam as claimed, would be misleading to many operators and cause much hurried and disappointing work. The great danger in attempting to operate with this gold *too* rapidly was that of "bridging over" spaces, thus leaving an imperfect filling. The cavity having been filled, probably in less than half the time usually occupied with ordinary cohesive gold, the necessity of using a burnisher, especially round all the edges was shown, afterwards the filling was polished with tapes at the cervical edge, the upper part with discs, stones and finishing burs.

When completed, the resultant filling seemed to be a compact mass of gold contoured to the adjacent tooth with clear cut and hard edges, proving the point the demonstrator had in view.

Dr. de Trey's Solila Gold.

MR. J. CHARTERS-BIRCH, L.D.S.I.

DEMONSTRATED the use of solila gold; filling a crown cavity in a right lower molar for the same patient he had operated on at the Edinburgh meeting last year. He also explained in detail the best methods of annealing the gold (and with teeth inserted in plaster), methods of using solila alone and in combination with tin, amalgam and other maker's gold.* The tooth filled at Edinburgh last year was examined with much interest by several who were present at that demonstration, its surface shows absolutely no disentegration, and could scarcely, if at all, be distinguished from the one just filled.

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* A paper by Mr. Charters-Birch, on the subject of Solila Gold, will be published in an early issue.

The Ferrule Matrix.

By GEO. CUNNINGHAM, L.D.S.Eng., D.M.D.Harvard, and E. C. DIMOCK, L.D.S.Eng.

In the demonstration of plastic contour filling by the aid of this matrix, it was shown how quickly and easily the latter can be applied, and thus the largest compound cavity be converted into a simple one. A considerable number of these matrices should be kept ready for use, and they should be arranged in graduated sizes in a box or boxes with about two dozen partitions. Thus, when fitting one of these matrices, if the first one taken up is not correct in size, the next, smaller or larger, as the case may be, will be found to fit. The matrices are made from the Herbst metal or any German silver strip of about No. 2 thickness. A sheet of this metal should be taken and cut up into strips of different lengths and depths; then each of these strips should be bent into a ferrule with an overlapping joint, and soldered with soft solder over a spirit lamp. From one to two hundred of these can be made in a day.

The ferrule is readily cut to the proper size at the cervical or coronal margins with a pair of nail scissors, and may be contoured outwards or inwards with contouring pliers if need be. If the matrix does not fit the cervical margin accurately, it may be made to do so by pinching in the band with suitable pliers. When the edge of the cavity to be filled is deep under the gum, the matrix should be cut freely away at its cervical edge, except that part of it which corresponds to the cavity; thus a flaring contour to ensure proximal contact can be obtained at any required position. The amalgam should be built up very full so as to take the impression of the occluding teeth, and the *matrix should be left on until the next appointment*, when it should be carefully removed and the filling polished.

The matrix is also useful in certain cases of gold filling, for the retention of dressings in broken down teeth, and for the reproduction of roots in fusible metal in a plaster cast for crown and bridge work.

The Use of Dr. Herbst's Needle for Filling Cervical Cavities.

By W. R. HUMBY, L.D.S.Eng.

In this method the rubber dam is adjusted in the usual manner, and in the case shown for demonstration the eight anterior teeth were exposed, the dam being secured by clamps on the first bicuspid on either side.

The tooth to be stopped is thus brought into view, and it only requires the Herbst needle to be applied, so that the gum and dam may be held out of the way, and the work on the cervical portion of tooth proceeded with.

The needle is made from a broken bur, the latter being ground to a fine point on the side of a carborundum wheel, by gentle pressure and rotation. The latch end is broken off, and any roughnesses at fracture smoothed away.

The point is inserted beneath the free edge of the dam and pressed upwards until the needle point has passed by the seat of caries, and the sound cement is felt to have been reached.

During this step the direction of the point will be upwards and backwards; when the true position is believed to be attained, the direction is changed so that the needle stands out at right angles to the cement: the position to be retained throughout the operation.

Securing the needle is very simple. One of the fingers of the left hand is placed on the projected rounded end of the needle, while the forefinger and thumb of the right grasp the middle, so as to release the left hand from its hold on the needle. The left hand thus being free, is used to stretch the dam forward and draw it over the end of the needle; the rubber, by its contraction towards the teeth pulls the needle into firm contact with the cement. According to Dr. Herbst this is the only hold the needle requires, but in consequence of a tendency to displacement, it is better to have a clip—such as are used for fastening neckties—passed under the rubber from the upper surface and made to grip the needle through the rubber.

The clip is thus presented edgeways to the patient's face; to prevent local pressure a piece of domed metal is attached to edge of clip by soft soldering. This addition resting against the lip secures the needle in position, and leaves both hands free during the greater part of the operation. If the mallet or disc is used, it is better to give the needle a little support by gently pressing it, but this precaution is only occasionally required.

The advantages are: the entire absence of pain; the very rapid adjustment of dam and needle; averaging two minutes the entire freedom from any obstruction to cavity; no laceration of gum and the absence of hæmorrhage, the only evidence of any operation being a small red mark where the side of the needle rested against the gum margin; and there is no need for any ligature.

Gold and Tin Contour Filling.

By H. W. NORMAN, L.D.S.Eng.

For this operation a bicuspid was chosen with an interstitial cavity, which last was cut in the shape of a double wedge. The tin cylinders were placed in a layer on the level floor at the cervical edge, and the filling finished off in the usual way with gold foil; the tin was not trimmed up till after the cavity was quite filled.

Gutta-Percha Impressions.

By J. H. BADCOCK, M.R.C.S., L.R.C.P., L.D.S.Eng.

The material used was the best pure gutta-percha, easily obtained of any india-rubber merchant at about seven shillings per pound. It is of a dark brown colour, and the best quality is translucent in thin sheets. Owing to its elasticity even deep undercuts are accurately reproduced, and "dragging," with consequent distortion of the neighbouring gum, is obviated.

Sufficient gutta-percha for the required impression is immersed in boiling water, and the tray filled as usual; any tendency to stickiness being overcome by wetting the fingers. A special tray is often advisable, though not a necessity, but it should not fit too closely. A little vaseline is smeared on the patient's lips or they are thoroughly moistened. The filled tray is then removed from the basin of boiling water to another of cold water, and partially immersed for a few seconds to cool the metal. The cold water should not be allowed to touch the surface of the gutta-percha until immediately before it is transferred to the patient's mouth, when it is firmly pressed home, and held in position for four minutes.

The resiliency of the material, which is so valuable in preventing distortion of the impression while being removed from the mouth and preserving undercuts, is the very quality which it is necessary to overcome when inserting it; for otherwise there will be a tendency to effacement of the impression, and a model will result with short teeth, a fault difficult to detect until the plate is tried in the mouth, *i.e.*, the gutta-percha must be used very hot, that its particles may the more readily take up their new position, and must be retained in the mouth until all tendency to rebound has disappeared. Neither should it be cooled during this time, as cooling would tend to produce stress and subsequent warping.

On removal from the mouth, the impression should be placed in cold water and kept there until ready to be cast. When removed from the tray, the gutta-percha should be cleaned, pressed into wafers of convenient size between two pieces of plate glass, and kept under water or glycerine. After a time it becomes sticky, and loses much of its elasticity; it should then be discarded in favour of new. As it does not become hard in the mouth, gutta-percha is especially useful for cases when long loose teeth are standing, though its softness necessitates care in withdrawal.

The demonstrator showed a number of models taken with gutta-percha, which were generally considered by members to be much better than could be obtained with any other material except plaster. He also took and cast several impressions of the mouth of a patient with long loose teeth.

Plaster Impressions of the Mouth in Easy and Difficult Cases.

By W. A. HUNT, M.R.C.S., L.R.C.P.Lond.

The demonstrator first dwelt upon the importance of obtaining a correct model, and gave reasons why in his opinion no known substance but plaster would give a correct model in difficult cases. For twenty-six years he had used plaster almost exclusively, and thought the difficulties of its use very much exaggerated. The kind of plaster to be used, and mode of mixing, were next touched upon, and following on this he described the mode of obtaining an impression of edentulous cases, dwelling upon the value of special and ordinary trays respectively.

In taking an impression of an edentulous upper he recommended the use of a band of Stent on the posterior part of the tray, and laid stress upon the point that no fuss should be made before a patient. The mode of filling the tray—modelling difficult overhangs—the introduction of the tray, were then detailed, as well as the position of the patient's head during impression - taking, and the time and method of withdrawal, and other practical points.

In referring to edentulous lowers he spoke of the special precautions to be observed, dwelling upon the use of ordinary and special trays, and pointed out that where loose folds of mucous membrane were present it was a great disadvantage to use any pressure.

In speaking of cases with teeth standing he detailed the methods of coring and showed examples. At the conclusion of his remarks Mr. Hunt gave a practical demonstration on a patient.

A Method of Strengthening Vulcanite Plates.

By C. R. MORLEY, L.D.S.Eng.

The following are the details of this demonstration :—

Having obtained your plaster model in the usual way, take a zinc die with a lead reverse. Upon zinc strike a tin plate, No. 8 or No. 10, the size intended for the finished work, try this in the mouth, and having got a correct adaptation, take the bite, make articulation, and proceed to set up pin teeth in the ordinary way. Afterwards try temporary plate and teeth in the mouth and ascertain that the bite, position of the teeth, &c., are correct; then place plate upon the model and take plaster impressions of the fronts of the teeth. Take the temporary plate to pieces, and the relative positions of the teeth and model to each other will be given. The next step is to strike up a copper plate, No. 3, and upon this copper plate strike a perforated dental alloy plate, No. 6, and upon this a No. 8 or No. 10 tin plate, guided by the fronts and teeth; these plates must be made of such a size that they will just clear the pins of the teeth and lift out of the flask. Round the perforated dental alloy plate under or a little within the pins of the teeth, a strip of strong plain dental alloy plate should be soldered at "*right angles.*" The perforated dental alloy plate should extend from first molar to first molar, taking care to end the bar between the pins of either the first or second molars, and not opposite the division between teeth. At this stage the palatal portion of the plaster model is covered with a copper plate, and upon this a strengthened perforated dental alloy plate, and upon this again a tin plate; upon these plates wax up the teeth to the same extent, and in the same way as if attaching teeth by means of vulcanite to a gold plate. Then proceed to flask, and in ordinary cases use a two part flask. "The packing is very important," and care must be exercised at every step. Begin by packing under and between the teeth in the usual way, then take a piece of extra thin rubber, cut it to the size of perforated dental alloy plate, place under the perforated plate, that is upon the palatal side, and afterwards replace upon model in exact position, place tin plate upon this, heat up flask and gradually close it. Now open the flask, remove the plate and if the operation has been successfully conducted the perforated plate will be in the same position upon the model as before, only the copper plate is replaced with rubber; finish the packing and vulcanize in the usual way. In partial uppers the plan may be modified by substituting for the rectangular bar a piece of plain dental alloy plate, No. 8 about $\frac{1}{8}$ or $\frac{1}{4}$ in. wide, struck upon the labial edge of perforated dental alloy plate and soldered to it. In getting up and polishing plate care must be taken to avoid exposing perforated plate. Although this mode of working has been given as, "a method of strengthening vulcanite plates" it could more correctly be described as "a method of making plates, using vulcanite as a means of gaining the fit to the mouth, and of attachment for the teeth." Stress must be laid upon the leading feature, that practically the whole strength is the strengthened perforated dental alloy plate so arranged as to give the greatest degree of strength with the least substance.

Electro-guaiacocaine-cataphoresis: its Application to Extraction, Sensitive Dentine, and Exposed Pulps.

By H. B. EZARD, L.D.S.Edin.

Mr. Ezard, as a preface to his demonstration, remarked: The idea of driving medicaments into tissue electrically is by no means new. Indeed, it is said to date back to the early fifties. Some eight years ago I covered a large field of experiments with a view of discovering a method of electrically injecting cocaine into sensitive dentine (searching for that Utopia of dental surgery—a reliable obtundent). I had to suspend my experiments at that time owing to the fact that I could not procure or manufacture a method of reducing a current to zero—this being absolutely necessary, as tooth matter is sensitive to one-eighth of a volt and sometimes less. My attention was strongly recalled to the matter by a paper by Dr. W. J. Morton, of New York (Professor of Diseases of the Mind and Nervous System and of Electro-Therapeutics), which was quoted in *The Electrical Review* of July 26, 1895, on "Bleaching Teeth with $H_2 O_2$ by means of Electro-Cataphoresis," and again by a paper by him in *The Dental Cosmos*, of January, 1896. In this latter paper I saw that the Electro-Therapeutic Company, of New York, had devised the very current controller for which I had so long and vainly sought. After much correspondence and (seemingly) a curious hesitancy on the part of the company to supply the instrument, I managed to procure the Wheeler Volt Selector which I now show you. The milliampere meter is not a necessary part of the apparatus, and I use it simply to indicate the strength of current passing and of estimating the amount of leakage. Now, as to current, I do not favour the street supply, for as I have already mentioned, a sensitive tooth will feel the minutest fluctuation. I prefer a primary or secondary current, as being absolutely steady. Without doubt the most easily managed primary battery for dental purposes is my modification of the Poggendorf cell (see *Proceedings of British Dental Association*, August, 1895), but I find it more simple to use the "Gardner Plant," with 7 E.P.S.Co.'s L type storage cells as a governor, keeping the cells fully charged. From this source you have a constant current of 15 volts (about) always ready for use. Dr. Morton gives as his formula, an 8 per cent. of cocaine hydrochlorate in guaiacol.

I have, however, obtained better results with a 20 per cent. solution. Guaiacol when electrolised has an abominable and penetrating odour. I have therefore concocted the following formulæ, either of which is more fragrant. Guaiacol c. cocaine 20 per cent.—of the above two parts, otto of roses one part; or guaiacol c. cocaine 20 per cent., two parts of this to one part heliotropine. These are the positive solutions. The negative or sponge solution is—solution sodium chloride 20 per cent. Now as regards the practical working of the apparatus. Join the wires from the selector to the batteries. You have now to find the positive pole. The most simple method is to moisten a piece of white blotting paper (which has been saturated with iodide of potassium) and place it across the terminals, turn the knob until the dial indicates 10, in about one minute the positive pole will turn the paper a dark brown. To this screw you attach the application wire, to the other the negative or sponge wire.

I do not recommend you to try cataphoresis for extraction, for although the extraction is painless, the guaiacol has too strong an escharotic action on the mucous membrane. It appears to me that the great utility of this guaiacocaine cataphoresis is in such cases as the one to be demonstrated on, viz., for immediate treatment of exposed putrescent and aching pulps. Suppose a case presents itself with pulp exposure possessing the distinct phosphatic odour—isolate it with dam—cataphorise it (this, as a rule, only takes seven minutes) excavate thoroughly, and cover it with a transparent celluloid cap (the advantage of these transparent caps is that you can see the actual exposure) and fill right off. I know it is heresy to publish such a treatment in defiance of "the books," but I argue that if you mummify and embalm the pulp, and then seal it up, you cannot have any more trouble, and such has been my practical experience with this treatment for six months. I hope many more of our profession will advance along the same line and give the results of their experience at the Dublin meeting next year.

The tooth on demonstration was a lateral incisor—pulp unexposed and fully alive, and it was proposed to anæsthetise the pulp through the thick layer of carious dentine, expose it and remove it. The surrounding parts were first dried, and then protected by a napkin or dam, metallic fillings present being varnished with shellac varnish or gutta-percha solution. In this case there was a good deal of current leakage, as the two centrals were metal-backed pivots. The sponge electrode was saturated with the salt solution, and was held tight in the patient's hand. A small pledget of wool saturated with guaiacocaine-*cum-rosa* was placed in the cavity, the indicator was placed at zero, and the needle applicator placed against the pledget. The current was then turned on very gently, and without a jerk, the patient's lower eyelids being carefully watched, as they give the immediate indication of the current being felt. On that indication the current was slackened to one third of a volt, and left stationary for a minute, this proceeding being carried on until the patient is unconscious of any increase or cessation of current. The time necessary varies from 7 to 47 minutes, depending largely on the condition of the patient and the initial current which can be borne without pain. (The pulp took 42 minutes to cataphorise and remove.)

Sponge Grafting.

By G. BRUNTON.

Mr. Brunton operated on a patient for whom Mr. Badcock had prepared two crowns to be fixed on the roots of the upper central incisors. While preparing the roots to receive the crowns, Mr. Badcock found the apices absorbed and asked Mr. Brunton to treat them by sponge grafting, which he proceeded to do in the following manner:—

The length of the root was correctly measured by means of a piano wire bristle bent at the point to catch over the end of the root when it reached the absorbed portion. On the piano wire was a small disc of rubber, which, being too large to enter the root canal, slid up the wire and gave the exact measure of the length of the root; the canal was dried out with paper points and a small piece of sterilized sponge was then pushed up through the root and out at the end to prevent the filling material protruding. A small portion of osteo cement sealed the canals and the crowns were set in the usual manner; the instrument used to push the sponge up through the root has a disc adjusted to the same distance as that on the wire used for measuring the length of the root, so that one knows when the sponge has gone through; the sponge was the finest Turkey, sterilized in a 50 per cent. solution of phenate of soda.

Nerve Extraction.

By E. PREEDY, L.D.S.Eng.

Mr. Edward Preedy removed pulps from recently extracted teeth mounted in various positions in a Fergus' headpiece. The instruments used were Donaldson's Canal Cleansers, and the special points illustrated by the demonstrator were: (1) Direct access to the root canals, so as to permit of the free *rotation* of the instrument; (2) the use of the cleansers cut down to about one inch in length and thickened with sealing-wax to form a handle so as to allow their being rotated in distal cavities and those difficult of access at the back of the mouth.

The Hydraulic Swager.

By C. D. GRUNDY.

A demonstration of this new apparatus, showing its capabilities and the manner of its working, was given.

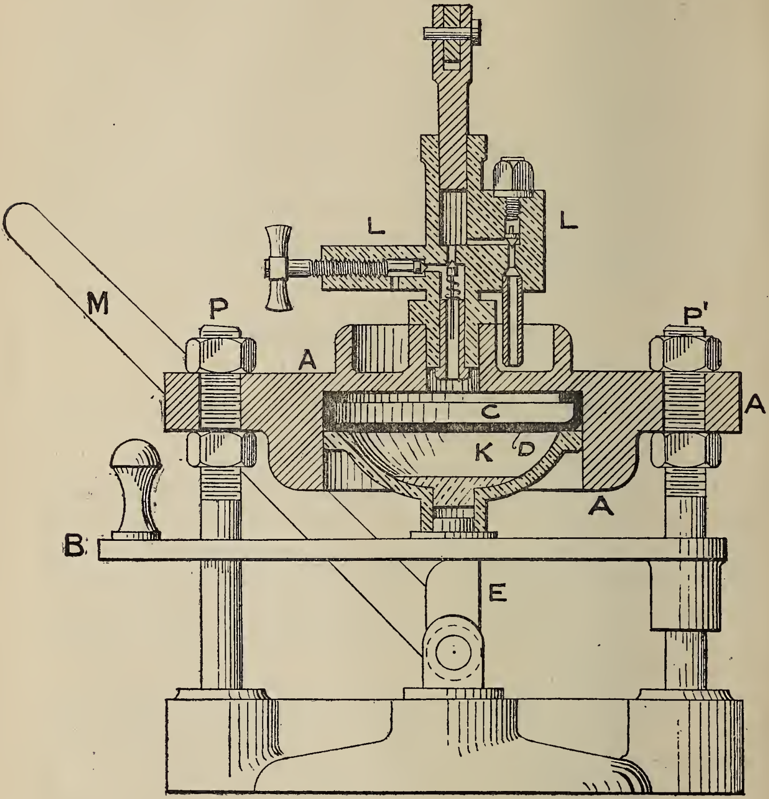
Makers of vulcanite dentures have long desired that their finished work should possess the good colour, elasticity and strength so notably present in the vulcanized specimens submitted by the manufacturers. As it is known that these specimens are hardened between metal or glass plates, it is not to be expected that these qualities can be present in the denture which is hardened in the ordinary way in contact with plaster only.

Conditions favourable for securing that the rubber may have its best qualities developed have been the object of the designer of an apparatus efficient for this purpose and the working of which can be easily carried out.

The method is as follows:—The model to be vulcanized upon is covered with a film of bright tin—not by swaging the metal on to the model after it is cast (this, it is obvious, would be worse than useless); but the first step is to line the impression itself with the thin metal, after which the plaster is run into it in the usual way.

The principle of the machine will be better understood by a reference to the sectional view.

A piece of sheet rubber, D, forms the floor of the shallow chamber in the top casting, A, above which is placed a hydraulic force pump, L. On one of the pillars, P, is a swinging bracket, B, upon which is placed a metal cup, K, containing the impression or model to be covered. This, when brought round into position, is exactly centred with the upper part—below is a cam, E, operated by a handle on the side, by a movement of which the cup is pushed upward into position and locked there.



The function of the press is that the force of the water exerted on the sheet of elastic rubber carries the metal (a piece of which has been interposed) down and into close contact with the impression or model. No injury is done to the frail edges of the impression, whether of plaster or composition, and the metal is pressed home into every irregularity and crevice. The cup is now brought from under the press, and plaster is run into the impression on the top of the lining. When set, the contents of the cup are dislodged by a slight tap underneath. In this way a model is produced, covered with tin, showing every detail of the impression, edges sharp, and in every way admirable for vulcanising upon.

The making of plates for trying in and for introducing the markings of the rugæ and an even thickness of the palatal portion is an operation quickly performed, by taking an impression of the model in composition, from which a duplicate is cast in one of the cups and swaging thereon three thicknesses of the soft metal. The polishing plate for the lingual aspect of the case is made by pressing up the metal on a facsimile of the piece when the teeth are waxed in position and ready for flasking.

The primary advantage of the system is the ability to make vulcanite cases, artistically beautiful, doing full justice to the material we use, and at the same time obviating most of the drudgery of the finishing up process.

There is also an appreciable saving in time, the preliminary preparation of the models, trying-in plates, &c., occupying but a few minutes.

Demonstrations were also given at the meeting on "An Improved Method of Making a Pin-bridge," by W. M. Gabriel, M.R.C.S., L.D.S., and "A Simple Method of Crowning," by Vernon Knowles, L.D.S.Eng.

An account of these demonstrations will be published as Original Communications in future issues.

The Advantage of using Warm Solutions of Cocaine.

The local anæsthetic effect obtained with cocaine is stated by Costa (*Semaine Medicale*) to be more rapid, more intense and more lasting, if the solution is warm. The dangers of intoxication are thus much diminished, as the quantity of cocaine can be very much reduced, if it is warmed. A solution at 0·5 or 0·4 per cent. heated will produce a powerful effect.

Legal Intelligence.

Prosecutions under the Dentists Act.

AT GLASGOW.

At the Glasgow Sheriff Court, Sept. 7—before Sheriff Fyfe—J. H. Hatfield, residing at 5, Trongate, Glasgow, was charged at the instance of Samuel M. Carrick, writer, Glasgow, acting on behalf of the British Dental Association, with having contravened "The Dentists Act, 1878," as amended by "The Medical Act, 1886," inasmuch that not being a legally qualified practitioner, and not being a person registered under the Dentists Act, he displayed, at his house, the words "Surgeon Dentist," and other words implying that he was registered under the Act, and a person specially qualified to practise dentistry. The accused pleaded guilty, and a fine of £5 was imposed.

AT NOTTINGHAM.

At the Nottingham Summons Court on September 28, before Mr. E. W. Enfield and Ald. Fraser, Edward Jessop Hadley, described as a dentist's assistant, of Market Street, was summoned, on the information of Frank Johnson, of 37, Willersley Street, for that he did unlawfully take or use the name or title of dentist, or of dental practitioner, or some name, title, addition, or description implying that he was registered under the Dentists Act, 1878, or that he was a person specially qualified to practise dentistry, he not being at such date registered under the Act. Mr. Johnstone prosecuted on behalf of the Nottingham and Notts. Dental Association, and Mr. Arthur Wright (Leicester) defended.

Mr. Johnstone said the prosecution in this case had been instituted under Section 3 of the Dentists Act, 1878, as amended by the Medical Act, 1886. That section provided that, on and after August 1, 1879, persons claiming to be qualified dental practitioners who were not duly registered should be liable to a penalty, upon summary conviction, of £20. There had been several prosecutions under this Act in various parts of the country; one of them was at Newport Police Court on May 22.

Mr. Wright objected to this statement on the ground that it afforded proof of a malicious prosecution. He should show to the satisfaction of the Bench that the prosecution was a malicious one.

Mr. Johnstone (continuing) said prosecutions had already been heard under this Act, and convictions had been obtained where even it was admitted that the defendant had, in course of conversation, stated that he was not registered. The evidence he should put before the Bench that day would show that the person who was now there as the defendant had distinctly stated that he was a fully qualified man and a dentist. Those were the words used in the section of the Act, where a person was liable to a penalty of £20, and if that case was proved he should ask the Bench to inflict the full penalty, because other cases had been heard where managers in the service of Messrs. Goodman and Co. had been convicted, and it seemed that previous convictions were no warning to them. He thought there would be some question as to the identity of the defendant.

Frank Johnson, of 37, Willersley Street, stated that he was a clerk in the employ of Messrs. Johnstone and Williams, solicitors. Acting under their instructions he went to the premises occupied by Messrs. Goodman and Co., in Market Street, and asked for Mr. Goodman. He saw Dr. Loveday, who told him that Mr. Goodman was not in. Witness asked Dr. Loveday if he was a qualified dentist, and he replied that he was not, but that there was a qualified dentist on the premises. He was shown into the operating room, and there saw the defendant, who said his name was "Mr. Hadley," and that he was a registered and qualified dentist. Witness told him he wanted his teeth seen to, and defendant thereupon examined his mouth. He told him there was a slight inflammation of the left jaw, and that it would be necessary to extract five teeth. Witness told him this was a large order, and said he would call again on the Saturday. On the following Monday he again went to the premises and asked Dr. Loveday if he could see Mr. Hadley, who had attended to him on the previous Friday, and the doctor replied that Mr. Hadley had left some time. He asked the doctor what his name was, and he replied that if he particularly wished to know his name was Jones. He subsequently laid the information against the defendant at the request of the Nottingham and Notts. Dental Association.

In cross-examination, witness said he was sent to the premises with a view to ascertaining if Mr. Hadley was a qualified man.

Mr. H. Blandy, L.D.S., 2, Postern Street, stated that he was a member of the committee of the Nottingham and Notts. Dental Association. On September 18 he telegraphed to " Edward Jessop Hadley, 163, Cheltenham Road, Bristol." He produced the reply which he received thereto.

Mr. Wright interrupted, submitting that the telegram was not admissible, and that it was no evidence against the defendant. There was no proof as to who sent the telegram.

Mr. Johnstone said the question was this: he knew that the service had not been regularly effected, and that morning he had not anticipated proceeding further with the case than applying for a warrant. He had not expected to find the defendant present, because it was clear from the evidence of the last witness that when the detective officer went to serve the summons defendant was missing, and it was stated that he had left the town. Therefore, he should have to ask for an adjournment of the case, so as to enable him to communicate with the person whose name and address were on the telegram.

Mr. Wright strongly opposed an adjournment. Mr. Hadley was a properly qualified dentist; his name appeared in the Register for the current year. Rather than submit to an adjournment of the case he was ready to admit that Mr. Hadley's wife sent the telegram. The telegram simply said: " Am better, Hadley."

Mr. Johnstone: The telegram says: " Am at home."

The Bench decided that the telegram was not admissible, as there was no evidence upon it.

Mr. Blandy, cross-examined by Mr. Wright, said the proceedings had been instituted in consequence of a resolution adopted by the Nottingham and Notts. Dental Association. He was a member of the committee appointed to initiate the proceedings. The Association were determined to put down irregular practice.

For the defence Mr. Wright called Henry William Meadment, florist, of 26, Burton Road, Cotham, Bristol, who stated that the defendant Edward Jessop Hadley was related to him by marriage, and he had known him about ten years. He had been residing in Bristol until recently, and practising in that city as a dentist, at Bristol Bridge, Old Market Street, and Cheltenham Road.

Cross-examined by Mr. JOHNSTONE: Mr. Hadley ceased to carry on business in Cheltenham Road about two months since.

Mr. LOVEDAY, L.S.A., of 51, Burton Street, Nottingham, stated that he managed a practice for Messrs. Goodman and Co., in Market Street, Nottingham. He had been in their service about three years. It was the custom of Messrs. Goodman to employ only qualified men. He had known defendant about two months. Defendant was a qualified man, and his name appeared in the Register. Witness recollected the witness Johnson and another man calling on him. They asked him the name of the man who attended on Johnson the previous Friday, and witness did not tell them. He could not see why they should want to make inquiries of that kind. They then asked where Mr. Hadley was, and he replied that he had left a long while. He did not intend them to infer that Hadley had left some weeks or months previously. The person who accompanied Johnson said he came from the detective department, and that he had a right to ask questions. Witness said, "Yes, I can tell you are a detective." The officer said, "I see you have been making observations," and witness replied, "Yes, I can tell you are a detective by your boots."

The Bench decided to dismiss the case. Upon the question of costs they intimated that they would give their decision on Wednesday.—*Nottingham Daily Guardian.*

AT PAISLEY.

BEFORE Sheriff Cowan in the Sheriff Court, on September 25, Louis H. Fenton, 27, George Street, Paisley, was charged at the instance of the Dental Association with having contravened the Dentists Act, 1878, particularly Sections 3 and 4, in so far as he, not being a legally qualified practitioner, and not being a person registered under the said Act, unlawfully did on or about September 1, and still continues to publicly advertise that he was a dentist, thus implying that he was registered under the Dentists Act, and that he was a person specially qualified to practise dentistry.

The Sheriff held it proved that he had caused to be issued certain advertisements as charged, but dismissed the case on a technical point raised by respondent's agent, viz., that there was no proof put forward that he was not a registered dentist.

The agent for the prosecution said that as at a former stage the point in question had been admitted, he had not put forward the Register of qualified dentists as evidence.

The Sheriff, however, held that it could not be taken as granted, and therefore dismissed the case on the point.—*The Dundee Advertiser.*

[We are requested to state that this prosecution was not initiated with the knowledge or consent of the British Dental Association, or of the Scottish Branch of the Association. Local enquiries, up to the present, have failed to elicit the whereabouts or *personnel* of the "Dental Association" who undertook the prosecution.—Editor *J.B.D.A.*]

Abstracts.

Aluminium Instruments: a Warning.

By PERCY A. E. RICHARDS, F.I.C.

As aluminium is now so extensively used in the manufacture of various instruments I think the following facts will be of interest.

I was using an aluminium spatula the other day for transferring small portions of different powders to test tubes, and having wiped it clean had laid it down. In a few minutes' time I noticed it had become covered with what closely resembled a white growth, and although I removed this it formed once more. When carefully examined this white deposit was seen to consist of a brush-like mass of filaments radiating in all directions, not unlike hyphæ of a vegetable growth, standing erect on the flat surface of the blade. This continued to grow quite visibly, but at length over balanced and crumbled to a bulky white powder, which qualitative analysis proved to consist of alumina. A few experiments soon indicated that mercuric iodide had been the initial cause of this, as this substance at once produced a similar result with another piece of aluminium. I next tried various salts of mercury, including the two chlorides, the nitrate, sulphate, and oxide, and found that they all had more or less the same effect. Indeed, a minute globule of the metal was sufficient to start the "growth." The reason of this curious action would seem to be that mercury is deposited in the metallic condition on the aluminium, forming an amalgam, which at once acts on the moisture present in the air or on the surface of the metal to form alumina and liberate hydrogen. The mercury being again set free by this reaction once more attacks the aluminium, thereby prolonging and increasing the action indefinitely. A small strip of this metal, weighing half a gramme, was left in contact with powdered mercuric chloride for about a couple of minutes, then well washed and dried with a cloth. Action at once proceeded, and after an hour the aluminium was again thoroughly washed, dried, and then weighed. The loss in this interval of time amounted to a little over 8 per cent. of the total weight; in fact, the strip had been perforated in several places. The action is so curious as to be well worth repeating by any of those interested.—*The Lancet.*

Treatment of Infectious Gingivitis.

In an article published in the *International Dental Journal*, Dr. C. G. Cumston gives the following treatment for infectious gingivitis :—

"No matter what variety the gingivitis may be, it is a microbic manifestation, and in order to cure it the bacteria must be attacked; this is accomplished by severe antisepsis of the buccal cavity. First of all the tartar should be removed, as it is a real culture medium and a gargle of carbolic acid, one in two hundred; thymol, one in one hundred; or a more elegant and agreeable preparation may be chosen, such as Metcalf's spray solution or listerine.

The permanganate of potassium I can highly recommend for buccal antisepsis, and I prescribe,—

℞ Kalii permanganat., 0.50;
Aq. menth. pip., 40.—M.

Sig.—From eight to ten drops in a glass of tepid water as a mouthwash.

The use of saccharin combined with salicylic acid has also a favourable action in these cases, the following formula being an excellent combination :—

℞ Saccharin,
Natrii bicarb., āā 1;
Acid. salicylat., 4;
Alcoholis, 150;
Aq. menth. pip., 50.—M.

Sig.—Half a teaspoonful to a glass of tepid water as a mouth-wash.

For the fungosities cauterisation by chromic acid crystals or nitrate of silver, applied on cotton tampons, should be practised. In some cases the galvano cautery may be necessary. Chromic acid is, I think, perhaps the better, as its action is limited to the point touched, and the slough is eliminated in three or four days. The epithelium will have appeared in a week or so after.

When there is gangrene the foci should be destroyed by the galvano or the thermo cautery."

The New Photography.—New Focus Tube.

Messrs. Brady and Martin, of Newcastle, send one of their modifications of the focus pattern of Crookes's tubes for the production of x rays. This tube, while maintaining the fundamental construction of the original tube as introduced by Mr. Herbert Jackson, possesses an additional electrode. This electrode is simply a small piece of platinum wire fused through the glass in the neighbourhood of the anode. The special feature of this form of tube is that it practically combines two tubes of different degrees of exhaustion in one, for if the additional electrode be connected to the anode outside the tube, the resistance to the passage of a spark is increased, and conversely, if after use the vacuum is found to be too high, it can immediately be reduced by putting out of circuit the additional electrode. This is a distinct advantage, and one so easily obtained that it should receive the attention of other makers. We have severely tested this tube, and find it to be very efficient ; with it can easily be seen on a fluorescent screen the beating of the heart, and the movement of the liver in inspiration. Messrs. Brady and Martin have obtained a silver medal at the recent Health Exhibition at Newcastle for their x ray work.—*Brit. Med. Journal.*

Treatment of Salivary Fistulæ by Applications of Cocaine to the Parotid Region.

"One of the most serious complications of cut wounds of the cheek is the production of a salivary fistula, whenever Steno's duct or the parotid gland itself has been wounded. An Italian physician, Dr. Guerra, recently met with a case of this kind, the patient having cut himself in the left cheek with a razor. The wound, which extended across the entire parotid region as far as the horizontal branch of the lower jaw, had given rise to a large suppurating fistula, from which continuously issued a large quantity of saliva, preventing it from closing. Cauterisation of the fistula with a 15 per cent. zinc chloride solution, and even ligature of Steno's duct, did not check the flow, the parenchyma of the gland having been divided to a large extent. It then occurred to Dr. Guerra, inasmuch as in some cases under his observation he had succeeded in stopping the secretion of milk by means of applications to the breast of a cocaine solution, to try this treatment on the patient in question. He therefore painted the entire parotid region with a 5 per cent. solution of cocaine hydrochlorate in equal parts of water and glycerin, with the result that there was considerable decrease from the first day in the amount of saliva discharged. This result became still more marked when he increased the number of applications. Simultaneously, the suppurating sore, which was cauterised from time to time, decreased in size, and healed completely within a couple of weeks."—*The Medical Week.*

Recent Advances in Science and others bearing on Medicine and Surgery.

By Professor MICHAEL FOSTER.

On Monday, October 5, Professor Michael Foster delivered the first Huxley Lecture at Charing Cross Hospital Medical School, the institution at which the late Professor Huxley received the whole of his medical education.

The lecturer began by stating that he proposed to make his first lecture different in character from, and, as it were, a sort of preface to, those which would follow. His successors would, he supposed, each in turn single out some important new advance in science, and expound in detail its bearings on medicine and surgery. It seemed fitting that this first lecture should take account of the condition of science in the day when Huxley took his seat as a student at the school of Charing Cross, as compared with its condition now; but the lecturer shrank from attempting any general survey of the progress of science, as affecting the profession, during the fifty years which had intervened. Nor would he select what might be deemed the most important steps, and expound these alone. He proposed simply to dwell on one or two themes suggested by the history of science and of the profession during the time in question.

The first theme was a special bearing on the profession of the advance of science, which became apparent from a survey of the studies of the medical student in the days of Huxley's studentship, and a comparison of these with the like studies of the present day. An examination of the schedule of compulsory studies issued by the Royal College of Surgeons in the early forties, showed that of the sciences ancillary or preparatory to medicine, no instruction was provided in physics, and very little in chemistry, that little coming in the middle of the student's course, and being instruction by lectures only. Of general biology, nothing was demanded by the College of

Surgeons, save what incidentally came in materia medica, and only a little botany by the Company of Apothecaries. On the other hand, the greater part of each of the three years of study, right to the end of the course, was taken up by what was called anatomy and physiology, but was, in the main, human anatomy, and which alone of the studies was taught practically—namely, in the dissecting room. In appreciating the value of such a curriculum as the above, it must be borne in mind in respect to any science ancillary to medicine, that great as may be the practical usefulness of the facts embodied in the science, far greater is the worth of an adequate study of the science as a mental training. An ill-trained mind bungles with the facts which are before it, a well-trained mind can pick up the facts as it goes along. The methods of medicine, the mother of most of the sciences, are at bottom the methods of the children sciences; a training in the latter fits a man quickly for the use of the former. At the present day, physics, chemistry, biology, and physiology have each developed into a body of learning, capable, when rightly taught, of being used as instruments of mental training of great value, the right teaching being that by which in the laboratory the student is made to tread in the very steps of those who have built up the science. This is the chief justification of the study of these sciences being made a part of medical education. In the days of Huxley's studentship, things were very different. None of the sciences in question, perhaps not even physics, presented such a body of truths as could be taught in such way as to serve for a real training to the medical student; what was taught to him was taught merely for the practical utility of the facts. One branch of knowledge only had in that day achieved such completeness, and the machinery for teaching it become so perfected as to be a real engine of culture, and that was human anatomy. The acquirement of that knowledge was at that time the one real discipline for the medical student, and its value as a discipline even exceeded the practical usefulness of the facts of which it was made up. The authorities of that day were wise in making it the backbone of the student's education. To-day we shall be wise if, departing from their letter, we follow their spirit in leading the student along that path of study which will vest and most swiftly arm his mind to grapple successfully with the series of scientific problems making up the doctor's daily life.

The second theme on which the lecturer desired to dwell was the complexity of the progress of science, and the intricacy of the bearings of even a single scientific observation. No one observation or experiment can be judged as it stands by itself alone. Its effects and so its worth will depend not alone or even chiefly on its own intrinsic merits, but also on the way in which it joins hands with its fellows. The bearings of a new truth cannot be rightly expounded immediately on its birth; its value hangs on that which went before, and its power rests on that which is to come. In illustration of this the lecturer proposed to consider the bearings of some three or four physiological discoveries, some three or four observations each the result of experiments on living animals made in the years of, or in those following closely upon, Huxley's studentship.

The first such observation was that made by the brothers Weber in 1845, in Huxley's last student year, in which they showed that electric stimulation of the vagus nerve stopped the heart in diastole, or, as we now say, inhibited it. If the question be asked, what has been the gain of that experiment? the answer is that its effects have gone far and wide into the whole of physiology, and thus into the whole of medicine, and indeed have not yet come to an end. It has enabled us to understand, and that more and more clearly as succeeding observations have illumined the original one, how the heart is governed by the central nervous system, a matter which, before Weber's experiment, was merely the subject of fruitless contention, and that has shown us how we too may control it. It has become, in the hands of the physiologist, a method enabling them to solve problems which without its aid had baffled them. But perhaps its most far-reaching effects, and those which even to-day cannot be fully measured, lie in having started a pregnant idea, that of regarding the phenomena of life as the outcome of opposing and antagonistic forces, now carefully balanced, now swaying on this side and on that, an idea which has been a guiding light, even if sometimes misused, in our advancing knowledge of the processes both of health and disease, not only in the tissues of the nervous system, but in all those of the body.

The next such observation to which the lecturer called attention is that by Claude Bernard, in 1851, when he showed that section of the cervical sympathetic led to fulness of the blood-vessels in the head and face. The same experiment had been made a century or so before, but dropped still-born : the fulness of its time had not yet come. In Bernard's hand the experiment became the origin, the beginning, and so the cause of all that advance of physiological and medical knowledge which is indicated by the word "vaso-motor." There can be no need to dwell on how this knowledge has entered into and modified our conceptions of physiological and pathological events, general and special, or how, again and again, it comes to the front in therapeutic endeavours. Yet when Huxley was a student, the very basis of that knowledge was not as yet assured ; only the most advanced were prepared to admit that the blood-vessels had muscular walls. Bernard's experiment had its strength in Heule's histological demonstration, but has in turn been of such effect that could we draw from the web of the medical knowledge of to-day all that has come of it, that knowledge would become in large measure a confused tangle—so much do we owe to one single experiment.

The lecturer next dwelt on Bernard's discovery in 1850 of glycogen. The effects of that one observation are again manifold. It had an immediate and direct effect on medicine in throwing light on that terrible disease diabetes, a light which, even if it has not fulfilled the hopes which were first held, has at least, by pointing the way towards alleviation, saved much suffering, and greatly prolonged valuable life. But this has been only one, and not the greatest of its effects. It has had a most powerful influence as the mother of ideas. It was the first clear direct proof of the synthetic powers of the animal body, and as such has been the parent of great additions to knowledge, more especially in these latter days. But its chief influence has been, perhaps, that by showing how a tissue in a hidden way profoundly affects the blood, apart from any visible event, such as an outward blow, of secretion fluid, or a muscular contraction, or a nervous impulse. It was the first examplar of what we now call "internal secretion." Bernard's experiment has the relation of a father to a son towards all those researches on the thyroid and other organs which in our day have thrown so much light on the inner workings of the body, and added such powerful weapons to the medical armoury; and further, doubling, so to speak, on itself, has led us to a knowledge of the work of the pancreas, in the story of sugar, a knowledge which has cleared up much, and promises still more.

The last illustration taken was Waller's observations in 1850 and 1852 on the dependence of the nutrition of a nerve fibre on its continuity with the body of the nerve cell of which it is a process. This discovery, also the direct gain of experiments on animals, was in itself alone of value as a contribution to our knowledge of the influences which the central parts of a cell surrounding the nucleus exert on other parts of the cell, and perhaps we do not as yet fully realise all that the observation teaches. A still greater effect, however, on the progress of physiology and of medicine has resulted from the guidance and support which it has given to the experimental results of stimulating the cerebral cortex, an effect which yet another result, that gained by the application of the silver method to the histology of the nervous system, is converting into an advance of knowledge of momentous importance. So far as can be seen, the Wallerian degeneration by itself, the experimental results of stimulation by themselves without anatomical support, and the results of the silver method by themselves, would each of them have gone but a very little way; the union of the three has produced, and is producing, a movement of theoretical and practical advance, the limits of which it is difficult to foresee.

The lecturer concluded by a few words concerning the influence exerted by Huxley on physiology and so on medicine. Debarred by circumstances from fulfilling his early desire to become a physiologist, Huxley was ever ready with a helping hand to others. If English physiology stands at the present day, as it appears to do, in a sound and hopeful position, that is in large measure due to Huxley's direct and indirect influence

Reviews and Notices of Books.

NOTES ON THE TREATMENT AND FILLING OF TEETH.

By W. Cass Grayston, L.D.S.I. The Dental Manufacturing Company, Limited, London, Manchester & Dublin.

In this little book the author lays no claim to exhaustiveness, he simply desires to allude to, and to lay stress on the more important practical points met with in every-day work.

The preparation of cavities, filling materials, methods of insertion, and the treatment of dead teeth take up the major portion of the book, while the remainder is filled up with short articles on toothache, pyorrhœa alveolaris, rhizodontrophy, &c. The author greatly advocates the use of cement filling, even in cavities with a low cervical edge, stating that, in his experience, properly inserted fillings stand very well in that position, and that if they fail, it is due to defective manipulation. He deprecates the use of tin at the cervical edge, having found cases where the tin has "become disintegrated and eaten away by the action of the oral fluids." He is also of the opinion that tin has no therapeutic action whatsoever on the tooth substances. In discussing the relative value of cohesive and non-cohesive gold, he observes, in answer to the statement made by many, that non-cohesive gold has preserved teeth for many years where cohesive has failed, "It is, to my mind, simply a case of survival of the fittest. Our own failures are always before us while those of past generations have been dead and buried and forgotten years ago."

At the end of the book there is a very interesting article on the action of the essential oils, the author strongly recommending their use in the treatment of dead teeth.

The book is one that will be more useful to practitioners than to students, and although it is short and somewhat inefficiently illustrated, yet it will prove of service to those who find the ordinary text-books insufficient in practical working details.

Obituary.

Sir John Erichsen, Bart., F.R.S., LL.D.

The death of Sir John Erichsen, at Folkestone, on September 22, has robbed English surgery of one of its most distinguished members. Born in 1818, he qualified in 1839, and subsequently became Lecturer on Anatomy and Physiology at Westminster Hospital. From here he migrated to University Hospital, being appointed Assistant-Surgeon. At the early age of 32 he became Professor of Surgery to the College and full Surgeon to the Hospital, a post which he held till 1875, when he resigned and was placed on the consulting staff. He was elected a member of the Council of the College of Surgeons in 1869, and of the Court of Examiners in 1875, and in 1880 he became President. Sir John Erichsen was for some years Senior Surgeon Extraordinary to the Queen, and in the year 1895 received the honour of being created a baronet. He was a voluminous writer, and will be best remembered by his splendid work entitled "The Science and Art of Surgery." This book has already reached its tenth edition and still remains the standard English work upon surgery. Sir John Erichsen was Chairman of the Managing Committee of the Dental Hospital of London from 1877 to 1884.

Sir G. Murray Humphry, F.R.S., LL.D.

We regret to announce the death of Sir George Humphry, which took place at Cambridge. He was the son of a barrister, born in 1820, so that he lived 76 years. He took the L.S.A., London in 1842, the Fellowship of the English College of Surgeons in 1844, the M.B. of Cambridge in 1852, and the M.D. in 1859. The first part of his professional career was spent at Norwich, whence he removed to Cambridge on his appointment to the Professorship of Anatomy at the University. From 1869 to 1889 he represented Cambridge on the General Medical Council, and from 1883 up till the time of his death filled the important Chair of Surgery in the University. Five years since he received the honour of Knighthood. His published contributions are many, and much of his work dealt with comparative anatomy. His best known books are perhaps those on "The Human Hand and the Human Foot" and a "Treatise on the Human Skeleton."

Adams Parker, L.D.S.Eng.

It is with much regret that we chronicle the death of Mr. Adams Parker, L.D.S.Eng., one of the oldest dental practitioners in Birmingham, and the founder of the Dental Hospital in that city, one of the first of the provincial institutions of its kind. He was the son of a prominent Birmingham surgeon, Mr. Langston Parker, and was a pupil of the late Sir John Tomes. He was much respected by those few of his professional brethren who knew him, and it is a matter of great regret that, in spite of much assistance on various occasions, the deceased was in very straitened circumstances at the time of his death. His pride was a great obstacle to his following the advice given him by a few who were interested in his case, and he succumbed to an overdose of laudanum, at the age of 63. Mr. Parker was never married, and had no near relatives—which probably accentuated his natural diffidence.

Miscellanea.

The Annual Dinner.

It may be interesting to many of our readers to know that this year's annual dinner was probably the most successful one yet given by the Association, and seldom, if ever, have we been favoured with the presence of so many distinguished members connected with the medical profession. The following is the list of guests who were present:—H. Allingham, F.R.C.S., A. G. Bateman, M.D. (Hon. Sec. Medical Defence Union), H. T. Butlin, D.C.L., F.R.C.S. (President Metropolitan Counties Branch, British Medical Association, and ex-Treasurer British Medical Association), R. Brudenell-Carter, F.R.C.S., J. Ward Cousins, F.R.C.S., Francis Fowke (Secretary British Medical Association), J. G. Glover, M.D. (Representative for England on General Medical Council), A. Pearce Gould, F.R.C.S., C. J. Hare, M.D., Ernest Hart (Editor of the *Journal of the British Medical Association*), Christopher Heath (ex-President of the Royal College of Surgeons of England), Dr. Grevers (Amsterdam), H. G. Howse, F.R.C.S., John Langton (Vice-President Royal College of Surgeons of England), Howard Marsh, F.R.C.S., Dr. Marshall (Chicago), Henry Morris, F.R.C.S., Edmund Owen, F.R.C.S., George D. Pollock, F.R.C.S., Walter Rivington, F.R.C.S., W. G. Spencer, F.R.C.S., J. Bland Sutton, F.R.C.S., E. Trimmer (Secretary Royal College of Surgeons), R. W. Turner (Counsel to the British Dental Association), F. R. Upton (Clerk to the Society of Apothecaries), G. Sims Woodhead, M.D. (Director of the Research Laboratories of the Royal College of Surgeons and Physicians.

The Dentists' Association of New South Wales.

The fourth annual meeting of this Association was held on August 6th at the Australia Hotel, Sydney. Dr. A. Burne presided. The annual report stated that during the last year the chief object of the Association had been pushed forward, with the result that the *Dentists' Bill* had been introduced to Parliament. Regret was expressed at the losses by death of Drs. A. Hinder and W. T. Halstead. The following Office-bearers were elected:—President, Dr. A. Burne; Vice-Presidents, Messrs. H. Paterson, and T. Chaim; Hon. Treasurer, Dr. Oscar Davis; Hon. Secretary, Mr. H. Taylor; Committee, Messrs. Marshall, Newton, Darton, Gabriel, and Holloway; Auditors, Messrs. B. Corbett and A. G. Kibblewhite.

Dental Legislation in New South Wales.

The dental profession in New South Wales is just now very much occupied in an endeavour to obtain a Dental Act. The Bill has already passed the Upper House, and is now before the Lower Chamber, and has every prospect of becoming law. According to the *Australasian Medical Gazette* it contains nineteen sections.

Provision is made for the establishment of a Dental Board, a Registrar, the qualifications necessary for registration, the penalties to be inflicted upon unregistered persons using the terms that imply registration, also upon persons who commit frauds on the Act. Section 15 states, amongst other things, that the Board may make, alter, and repeal regulations for carrying the Act into full effect, and for prescribing what certificates, &c., will be recognised by the Board, and for holding examinations and prescribing the subjects and fees therefore. It is provided that the regulations of the Board be approved by the Governor, and that they be laid before both Houses of Parliament.

The first Dental Board will be a nominee body of eight members, two of whom must be registered medical practitioners, four of whom must be dentists who are qualified for registration under the Act, and two of whom must be persons not medical practitioners or dentists. One of the eight is to be appointed President. This Board will continue in office for three years only. At the expiration of the three years the registered dentists will elect a Board according to regulations approved by the Governor. The elected Board will choose one of its number as President. At least five of the elected Board are to be dentists, and three legally-qualified medical practitioners.

The Bill, if passed into law, will come into force on January 1, 1897, after which time no person other than a medical practitioner will be entitled to take or use the name of dentist, or any name, &c., implying that he is registered under the Act, without being liable to a penalty not exceeding twenty pounds. The portions of the Bill that deal with the qualifications necessary for registration are almost identical with those of our own Act.

The authorities of the Sydney Hospital are making provision for the practical training of students in dentistry; and the Senate of the University of Sydney has referred to the Faculty of Medicine a proposal to establish a School of Dentistry in connection with the Medical School. The scheme provides for a full curriculum and a diploma in dental surgery.

General Hospital, Launceston.

The report of the dental department of this hospital for 1895 shows marked progress. Over one thousand one hundred cases have been treated, including a fair proportion of conservative operations. The department is under the care of Messrs. A. L. Wells and A. J. Hall, and these gentlemen are to be congratulated upon the headway recorded in the report.

"Truth" and the Dentist.

It has probably been the lot of every respectable practitioner of dental surgery to have to listen, at some period, to the pitiable tale of an unfortunate individual, who, lured by subtle and attractive advertisements, has found himself or herself in the hands of an unscrupulous practitioner, from the meshes of whose net there was no escape until the operation of fleecing both money and peace of mind was completed. These cases rarely come befere the general public, and we must congratulate our contemporary *Truth* on its uncompromising and wholesome exposure of a cruel case of flagrant imposition of this description (*Truth*, September 17, 1896). The victim in this case was a simple-minded domestic servant. Happily for the unfortunate patient, her employer gallantly took up the cudgels on her behalf, and succeeded in getting a portion of the money paid refunded. The total amount of the bill for putting the mouth in order, with the artificial teeth, was £126, which sum more than swallowed up the savings of long years of service.

Patent Medicines and the Public.

The introductory address of Mr. Morton Smale to the students of St. Mary's Hospital contains some very valuable and forcible remarks upon the pernicious system of patent medicines. Need of reform in relation to the sale of these so-called remedies is sorely needed, and we congratulate Mr. Smale upon attacking the question, and so endeavouring to enlighten the public upon the many dangers and ills to which they expose themselves by purchasing, without advice, such preparations. Now the question has once been ventilated we trust that it will not be allowed to drop, but that endeavours will be made by the medical profession to bring the matter under the notice of the Government authorities.

In Sweden, we believe, this question has been to some extent dealt with, for no one is allowed to sell drugs without a prescription signed by a medical man.

A full report of Mr. Smale's address will be found in the *British Medical Journal* and the *Lancet* for October 3.

The X Rays.

The *x* rays, of which so much has been heard recently, are without doubt useful in dental diagnosis, and will be more generally adopted when the methods of employing them have undergone improvement. At the recent annual meeting their application in diagnosis was well demonstrated by Mr. Clarke, while at the Conversazione given at the Hotel Métropole, the London Stereoscopic Photographic Company gave a very excellent demonstration of their general use. The guests present evidently appreciated the exhibit, as shown by the crowded condition of the room, and not a few went through the experience of having the bones of their hands photographed, or perhaps, to speak more correctly, "skiagraphed."

The Clinical Research Association.

The first annual report of the Clinical Research Association, Limited, is most satisfactory, and shows that the Society has satisfied a long-felt want. The membership numbers over 2,000, and the actual number of investigations carried out during the first twelve months the laboratory was opened amounted to 5,227. The principal aim of the Association is to carry on in an expeditious manner investigations of specimens, whether from a chemical, histological, or bacteriological point of view, and is therefore of immense value to the private practitioner in assisting him to make a speedy diagnosis of those diseases whose recognition cannot with certainty be determined without more or less elaborate bacteriological or chemical experiment. The offices of the Association are at 1, Southwark Street, London Bridge, S.E., and full particulars as to membership, &c., can be obtained of the Secretary, Mr. Chas. H. Wells.

Foreign Dentists in Hungary.

According to *The Lancet*, it has for a long time been a disputed question whether dentists who have obtained dental diplomas abroad should be permitted to practise in Hungary. Considering that only qualified medical men are allowed to practise dentistry in Hungary, and that there is no special examining board for dentistry in this country, the government has declared that for the future a license granted in another country will be valid only if its possessor is a qualified medical man who acquired his diploma of M.D. in one of those universities which are recognised in Hungary.

The next Examination for the diploma of Licentiate in Dental Surgery of the Royal College of Surgeons, England, will commence on Friday, November 6, 1896.

Correspondence.

We do not hold ourselves responsible for the views expressed by our correspondents.

A Suggestion.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—I beg for a little space in your valuable Journal to draw attention to, and suggest a remedy for, an evil closely akin to the all important one of "non-registered advertising dentists," which at present is occupying and exciting the minds (and justly so) of all properly qualified gentlemen.

I have no intention whatever of defending any of the former gentlemen or their doings, but on the contrary, would gladly give any help if possible to aid in their extermination. But to come to the point at once, I should like to ask, do any of those properly qualified gentlemen ever pass a thought on that unfortunate class of beings whom I will style the *honest poor mechanics.* I firmly believe there are a great number of real good mechanics, who, if they only had a fair share of this world's riches and could go ahead with their studies, they would turn out just as brilliant as some of the worthy gentlemen who adorn the dental profession.

If advertising quacks can go on defrauding the public, and floating companies, &c., in spite of law and agitation, can any blame be attached to a dental mechanic if he be tempted to go and do likewise? When a man is working hard for 40s. per week, the temptation of £40 per week, and more, is rather strong, and now that it is possible to evade both the Dental Act and legal proceedings by registering as a company, the temptation to start an "Anglo-American Dentorium," or a "Fine Art Teeth Laboratory," is still stronger.

Now I respectfully venture to suggest one way of stopping the supply of recruits to the increasing ranks of advertising swindlers. There are close on 5,000 qualified gentlemen on the Dental Register. now if each of these gentlemen subscribe each year £1 to a common fund, to be placed in the hands of the British Dental Association for the purpose of placing three or four selected dental mechanics each year in a position to go ahead with their studies and gain their diplomas, they would, in my opinion, be putting a very decided hindrance on the invaders of their rights. At the same time they would strengthen their body by increasing the number who are determined to do good work for good fees and whose watchword is "death to the cheap-jack."

In many of the American States they send up each year a beneficiary student to their dental colleges, where he is received and educated at half the usual fees. Perhaps if this suggestion of mine should bear fruit, our own colleges and hospitals would reduce their fees for such students. And again I think none of those students would object, when their course was finished, to give a substantial sum each year to the fund which originally supplied them with the "sinews of war." Hoping I have not encroached on too much of your excellent Journal, I am, sir, yours respectfully,

September, 1896. "AN HONEST POOR MECHANIC."

The Benevolent Fund.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—In your otherwise excellent report of my speech on the Benevolent Fund of the British Dental Association, I find that I am reported to have said that the annual subscriptions only reached about £100 a year. I thought that I said that they amounted to about £400, for I certainly intended to say so.

I should be very much obliged if you would correct this error, and beg to remain,

Yours truly,

September 22, 1896. (*Signed*) HENRY T. BUTLIN.

Dental Materia Medica.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—In reference to a letter on the above subject from "Practitioner," which appears in your last issue, it may interest your readers to know that such a work as he desires will very shortly appear. Full particulars of title, author, &c., will be found among your advertisements of the same date (page xliii.). The coincidence is worthy of note.

Yours faithfully,

J. & A. CHURCHILL.

7, *Great Marlborough Street*,
September 21, 1896.

Books Received.

The Medical Press and Circular, Odontologische Blätter für Central-, Nord-, und Ost-Europa, Archives Nationales de Stomatologie et d'Art dentaire, Magyar Fogaszati Szemle, L'Odontologie, The Dental Digest, Pediatrics, Deutsche Monatsschrift für Zahnheilkunde, La Odontologia, Revue Odontologique, Le Progrès Dentaire, Programme de l'Enseignement et des Conditions d'admission a l'École dentaire de Paris, Report of the General Hospital, Launceston, The East London Standard and Border Gazette, The Dental Record, The International Dental Journal, The Dominion Dental Journal, Guy's Hospital Gazette, The Birmingham Medical Review, The Dental Cosmos, The British Journal of Dental Science, The Chemist and Druggist, The Pharmaceutical Journal, The Ohio Dental Journal, The Dental Review.

Letters and other Communications received from :—

H. W. Norman; G. O. Whitaker; C. D. Grundy; C. R. Morley; W. Rushton; F. J. Bennett; Parke, Davis, & Co.; E. Lenthall Oldfield: J. & A. Churchill; Peter Headridge; G. Brunton; W. M. Gabriel; W. Hern; W. R. Humby; Vernon Knowles; H. Dowling; H. Baldwin; G. Northcroft; W. A. Hunt; W. J. May; E. Preedy; Messrs. Bowman & Crawley-Boevey; "Anti-Humbug"; F. R. Howard; J. H. Badcock; R. P. Lennox; J. Charters Birch; D. Caush; E. C. Dimock; T. E. Constant.

Appointment.

S. HUTCHINSON, to be Hon. Dental Surgeon to the Monkwearmouth and Southwick Hospital, Sunderland.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.
P.O. Orders must be accompanied by Letters of Advice.
Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.
Subscriptions to the Treasurer, 40, Leicester Square.
Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.
All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 11. NOVEMBER 16, 1896. Vol. XVII.

The Blood Pressure as a Factor in the Eruption of the Teeth.

In our present issue Mr. Constant's paper on the causes of the eruption of teeth is printed, and it therefore seems an appropriate time for some comment upon the theory there advanced. Mr. Constant has been fortunate enough to hit upon a novel explanation of a process about which many have thought and written, and, as the known explanations are admittedly unsatisfactory, any new light on the matter is very welcome. His theory, in brief, amounts to this, that the pressure of the blood is the mechanical factor, this being rendered efficient in sending the tooth out in the right direction by the anatomical disposition of the surrounding parts, or, in other words, that there is a blood pressure beneath the tooth not fully balanced by an opposing pressure above it. It is a matter of no small difficulty to realise the exact conditions under which such a force could or could not operate. Mr. Constant points out that there is below the tooth ready for eruption an abundant and highly vascular pad of tissue, whilst there is nothing equally vascular above it, and that hence movement in an upward direction might be expected. As it will probably be some time before there is any consensus of opinion upon the subject it may be well to point out a few of the *pros* and *cons*.

To begin with, it is difficult to think of an analogy to such a process. As a rule the hydrostatic pressure of the blood is balanced, though we know that when the balance is disturbed the blood pressure apparently is able to move an organ. Thus with the heightened arterial tension of Graves' disease the eye is pushed forward; or, when the atmospheric pressure is removed or reduced by the action of a cupping glass, the tissues swell up into it, the blood apparently being the active factor in making it do so. Again, when the exit of blood from a part is interfered with by pressure on a vein, the part swells.

But in all these cases there is an antecedent condition of an upset of the ordinary normal circulatory conditions. It would seem then that, though Mr. Constant, in propounding his theory, was wise in not encumbering it with speculations as to the exact *modus operandi*, the process cannot be quite a simple one, even granting that the blood pressure plays a part in it. If the tooth is to be moved from the spot it has long occupied by blood pressure, then either the blood pressure behind it must be increased—as appears to be the case in exophthalmos—or else the resistance in front must be diminished. Either condition is conceivable under the orders, so to speak, of the nervous system; or similarly it might be that active absorption and waste of the tissues above it led to there being a vacuum—again to speak loosely—into which it was pushed by the constant pressure behind it.

So that, after all, it is probably not blood pressure alone which would be adequate to bring about the result, for it is at least very unlikely that the arterioles would be contracted above the teeth at the same time that those below were dilated under nerve stimulus.

There is plenty of room for a difference of opinion upon the subject, and we are inclined to think that Mr. Constant has pointed out a real factor, though we think that his proposition might be stated differently, and we would suggest that it might be put thus. Owing to blood pressure, and perhaps to other organic processes going on, there is a condition of tension in all parts of the body, which is, ordinarily speaking, balanced by the elasticity of skin and mucous membranes, and by the various other structures and fixed points of the body. This tension, probably not more than a few millimetres of mercury, would always tend to the extrusion of any substance if the resistance outside it were diminished or removed.

If, then, when the period for the eruption of the tooth approaches, the tissue over it begins to be removed and absorbed, the tooth would, under the impulse of this tension, move up towards and finally through the surface, the arrest of the process short of its being shed being due to the other developmental processes which manufacture a socket, and tie it down to it by an alveolo-dental periosteum, thus supplying again the resistance which was for a time in abeyance.

It must not, however, be forgotten that new growths, even of the very softest sort of tissue, seem to be able to exercise very considerable force in displacing structures apparently much stronger than themselves, so that it is unsafe to put growth in one structure or another out of court altogether in favour of a mechanical force, even if that seems to have a probable existence.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

The Annual General Meeting.

MICROSCOPICAL SECTION.

The more purely scientific side of the practice of dental surgery was, as usual, represented by the Microscopical Section, which has by this time become an important element of the Annual Meeting of the British Dental Association.

The *locale* of the Exhibition was in a large, well-lighted room, adjacent to the general demonstration rooms of the Examination Hall, and owing to its close proximity to these rooms, this year it seemed to enjoy a larger degree of popularity than in other years. On Thursday and Friday the varied and interesting collection of microscopic sections, lantern slides, photo-micrographs and drawings, attracted the attention of many members and ladies.

As at Edinburgh, so in London, the chief feature of the exhibition consisted in the gathering together of specimens illustrating many of the morbid conditions of the teeth and adjacent parts. Several unique and important conditions were seen for the first time. Notable among these were the "lampas" sections of Mr. Storer Bennett—a rapid, soft, non-vascular overgrowth of the papillæ, and deeper sub-epithelial tissues of human gum, the encapsuled bacilli lantern slides of Mr. Howard Mummery, and a remarkable specimen of dentine irregularity exhibited by Mr. W. H. Must.

The latter—a hard section of dentine prepared by grinding on a stone—showed an abnormal structure in the centre of the tissue, the appearance being almost identical with the curious specimen of Dr. Dentz of Utrecht. It will be remembered that in this specimen structures were seen existing in the dentine apparently similar to Pacinian bodies found in the mesentery, and the touch corpuscles of Meissner in the papillæ of the skin.

But the slides and photographs of Mr. Tomes constituted another, and perhaps still more important feature of the collection, showing as they did—we refer more particularly to his amalgam preparations as viewed under low powers of the microscope—the close relationship between science and practice. Never before has this been so clearly or remarkably revealed, and it was certainly an object-lesson to those who would wish to dissociate the two.

One specimen showed the crystalline surface assumed by amalgams as they harden; another demonstrated the fact that the burnish of a filling is retained when a piece of amalgam is inserted by the "hot" method with old amalgam; and a third illustrated the so-called "flow" of amalgams. A piece of platinum wire had been forced into a block of amalgam which had been set for some weeks. The pressure was continued for twenty-four hours, and the impression thus produced was so perfect that, under the microscope, the striæ left upon the wire in drawing it down were plainly visible.

These, then, are the chief things by which the exhibition of 1896 will be remembered. Appended is a list of the

Microscopical Exhibits.

Mr. F. J. Bennett showed a beautiful specimen of caries in a tooth mounted on an artificial denture. The zone of translucency was well displayed, the section being stained with gold chloride.

In addition to the "lampas" section of Mr. Storer Bennett, which was placed by the side of a section of normal gum, a series of fine lantern slides in a frame were shown by this gentleman. They represented cases of pyorrhœa alveolaris in a dried skull, and a composite odontome in the jaws of a man and of a dog.

Mr. Caush sent two interesting photographs of ground sections of an exostosed tooth which had the following history. The specimen was discovered in the chalk *débris* within the artificially excavated caverns at Hayes Down, Lavant. Its age was probably not later than 2,000 years, and perhaps much earlier; associated with it were some flint instruments of the later Neolithic type.

An exceedingly interesting section of a composite odontome was exhibited by Mr. David Headridge.

Mr. Howard Mummery's lantern slides included the encapsuled bacillus buccalis mucifereus (Miller), involution forms of bacilli, unnamed (Miller), advanced caries with micrococci, leptothrix in dentinal tubules, "tobacco-pipe" appearance in carious dentine, &c., and sections showing nerve bundles in the pulp, artificial caries, &c., and half a-dozen large coloured drawings from photo-micrographs, done by projection on paper through the lime-light lantern.

A series of slides made by the Weil process was contributed by Mr. W. H. Must. They were chiefly pathological, and consisted of sections of secondary dentine, polypus of pulp containing calcareous nodules, pulp stones, cementosis, abscess at root of tooth producing absorption of the cementum by means of osteoclasts, inflammation of the pulp, large lacunæ in cementum, and the curious touch-bulb (?) specimen to which reference has already been made.

Dr. E. Roughton kindly lent some of his bacteriological preparations. He showed beautiful specimens of actinomycosis, bacillus filamentosus, bacillus anthracis, &c., and also fine slides which revealed the structure of dentigerous cyst, epithelioma of the antrum, multilocular cystic tumour of the mandible, papilloma of tonsil, and myeloid sarcoma of the jaw.

Remarkable for their beautiful staining were Mr. Rowney's sections. His special methods of staining nerve tissues brought out most clearly the Deiter's cells in the optic nerve, Purkinje's cerebellar corpuscles, &c.

Reference has already been made to Mr. Tomes' amalgam preparations. Other lantern slides and sections which he exhibited comprised calcified exposed pulp, section of pinna shell striated, isolated prisms of pinna showing transverse striæ like that of enamel, prisms of young enamel strongly calcined, decalcified organic matrix of pinna shell, &c.

Mr. Charters White sent a fine collection of slides. They included vertical section of tooth with erosion of enamel, absorption of root and secondary dentine believed to be due to gout; vertical section of carious tooth infiltrated with stained collodion, demonstrating apparently the fact that the dentinal tubuli are partially pervious in the "transparent zone;" globular dentine infiltrated in like manner; taste goblets in tongue of rabbit, &c.

Mr. Dencer Whittles showed a beautiful series of sections of pulp under various pathological conditions. Here were found excellent specimens of hyperæmia, acute and chronic inflammation, secondary dentine deposits in the pulp tissue, &c.

The slides were accompanied by coloured explanatory drawings.

The Hon. Secretary showed slides illustrative of some of the local lesions induced by dental caries.

The absence of the President, Mr. A. S. Underwood, enforced through a severe domestic affliction, was much regretted on all sides.

The meeting of the Microscopical Section was held on Thursday afternoon, August 13, Mr. C. S. Tomes, in the unavoidable absence of Mr. A. S. Underwood, occupying the chair.

Mr. J. H. MUMMERY exhibited two or three slides showing certain pathological conditions in an elephant's tusk.

A paper on "Exostosis,"* illustrated with lantern illustrations, was next read by Mr. D. E. CAUSH, L.D.S.I.

Mr. F. J. BENNETT exhibited some skiagrams illustrating certain structures of the teeth. Assuming the lime salts to be opaque to the *x* rays, the question was whether the degree of opacity would be found to vary in proportion to the percentage of salts. Sections were made of carious, horny and secondary dentine, and skiagraphs taken. In these shadow pictures the enamel appeared dark and sharply differentiated from the dentine, whilst the carious area showed lighter than the normal. Especially interesting was the fact that the horny dentine of the fang was more transparent than the normal dentine.

A paper by Mr. HOPEWELL SMITH on "Some Dental Lesions induced by Caries," was withdrawn by that gentleman owing to lack of time in which to read it.

Papers dealing with microscopical questions were also read at the general meeting by Dr. STACK (Dublin) and Mr. C. S. TOMES.

VOTES OF THANKS.

The CHAIRMAN: The only other business this section has i to pass votes of thanks to the readers of the papers, which I think we may take as a matter of acclamation. I think we should also pass a vote of sympathy with our President, Mr. Arthur Underwood. His absence is due to his wife being ill with typhoid fever, complicated by pneumonia.

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* Will be published as an Original Communication.

Mr. HENRY: I should be happy to propose that.

Mr. F. J. BENNETT seconded the motion, which was agreed to unanimously.

A hearty vote of thanks was accorded to the readers of papers.

ELECTION OF PRESIDENT FOR 1898.

The CHAIRMAN: Dr. Arthur Baker is the President of the section for next year, but in order to facilitate the working of things I think we should elect a President for the following year.

Mr. HOPEWELL SMITH: I beg to propose Mr. F. J. Bennett as the President-elect for 1898.

Mr. CAMPBELL seconded the motion, which was unanimously carried.

On the motion of Mr. HOPEWELL SMITH a vote of thanks was accorded to Mr. C. S. Tomes for presiding, and the section adjourned.

Western Counties Branch.

A COUNCIL Meeting of the above Branch was held at Minehead on Saturday, October 10, at 3.30 p.m., Mr. T. TAYLOR GENGE, President, in the Chair. Also present were Messrs. H. B. Mason, E. Browne, J. J. H. Sanders, E. Goodman, E. L. Dudley, J. Laws, J. T. Browne-Mason, A. Kendrick, and T. A. Goard.

Letters regretting absence were received from Messrs. Apperly, Hunt, McAdam, Robertson and Thomson.

The minutes of the last meeting were read and confirmed.

Amongst other business, the Council considered the letter of complaint respecting the absence of the representatives of the Western Branch from the last meeting of the Representative Board. The Council having heard the explanation of the several representatives, regretted the absence, but agreed that the cause of such absence was due to illness and other quite justifiable causes.

The Treasurer announced he had no fresh report to make.

It was decided to hold the next meeting at Ross, Herefordshire, on or about the first Saturday in May, 1897.

At the informal meeting of members, Mr. W. H. Goodman gave a demonstration on the combination of osteo and amalgam, especially useful in the filling of difficult and shallow cavities. He also showed a case of gemination of a central and a lateral incisor.

Mr. KENDRICK showed a very interesting case of a right and a left supernumerary bicuspid—perfectly formed—which had erupted between the first and second molars at the alveolar border of the jaw. He was requested to show it at the next Annual Meeting.

Mr. DUDLEY showed models exhibiting absence of the two laterals and one bicuspid in the upper jaw, and of two centrals, the left lateral and bicuspid, in the lower. The models were of a mother and her daughter. Also a model of a very late eruption of a canine in the middle of the hard palate, which, being decayed, had been mistaken for necrosis. The patient was put under chloroform for the removal of the supposed necrosed bone.

Central Counties Branch.

A MEETING of the above branch was held on Thursday, October 15th, at the Dental Hospital, Birmingham. At the meeting of the Council, which preceded the general meeting of the members, various items of business were transacted, and Mr. Hilditch Matthews, L.D.S.Eng., was elected a member of the British Dental Association and of the Central Counties Branch. At the ordinary meeting there was a very good attendance, including Messrs. F. W. Richards (in the chair), F. Howard, James Mountford, Breward Neale, A. E. Donagan, Vickery (Coventry), Whittles, Cater (Stafford), J. E. Parrott, Steynor, Knott, Coleridge-Roberts (Lichfield), Goffe, Oxley, Jones (Shrewsbury), Hordern (Leamington), and A. T. Hilder. The visitors present were Messrs. Nichols, (Abergavenny), Bennett (Stafford), Youngson and Shedden (Birmingham). The minutes of the last meeting having been read, were confirmed and signed. A collection in aid of the Benevolent Fund amounted to 19s. 8d. Mr. Howard, L.D.S.Eng., then read the following paper on "Some Experiments with the Downie Furnace."* The paper was heard with extreme interest by those present, and a discussion arose in which the following gentlemen took part:—Messrs. Breward Neale, Youngson, Richards, A. E. Donagan and Hilder.

The specimens shown were examined, and excited the admiration of all; the special crown (specimen No. 7) in particular. This was certainly a most ingenious method, and the *modus operandi* was much admired. Mr. Malcolm Knott then brought forward his resolution, calling upon the local medical societies to pass resolutions condemning as unprofessional conduct the administration of anæsthetics for unregistered and advertising dentists. This was fully supported by Messrs. Whittles and Shedden. Messrs. Vickery, Goffe, M. Owen, Howard, Donagan, R. Owen, and Richards also spoke on the subject, but while expressing their sympathy with Mr. Knott, were of opinion that, owing to varied reasons given severally by them, it would be unwise to pass it. A letter was received from Mr. King, of Newark, of similar tenor. Finally the resolution was withdrawn temporarily, and it was proposed by Mr. Owen, and seconded by Mr. Vickery, that the President (Mr. F. Huxley), the hon. treasurer, and hon. secretary should report to a general meeting in three months' time as to the result of their endeavours in obtaining expressions of opinion with respect to the reception of Mr. Knott's resolution by the medical societies mentioned. This was passed *nem. con.*, and the meeting then terminated with a vote of thanks to the chairman.

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* To be printed in a future issue.

The next meeting will be held at the Birmingham Dental Hospital, on Thursday, December 10th, when a paper will be read by the President-Elect (Mr. H. R. F. Brooks) on the "Treatment of Dead Teeth," which it is hoped will produce a good and general discussion by the members on this every-day but much-vexed subject, and be the means of bringing out new forms of treatment. There will be two or three casual communications given on cases of more than general interest.

Southern Counties Branch.

THIS Branch held a very successful meeting at Guildford, on Saturday, October 24th, when, thanks to the kindness of the Mayor and Corporation, the town hall was placed at the disposal of the members.

Among those present were : J. H. Redman, *President;* Alderman Rymer, J.P., *Vice-President and Hon. Treasurer;* Morgan Hughes, *President-Elect;* J. H. Reinhardt, J. Smith-Turner, H. Beadnell-Gill, F. H. Van der Pant, H. J. Kluht (London) ; J. C. Foran, J.P., and W. Barton (Eastbourne) ; Arthur King and A. Curling Hope (Guildford) ; H. W. Pilcher (Godalming) ; F. Bell (Tunbridge Wells) ; Vernon Knowles and A. L. Goadby (Reading) ; F. R. Flintan (Weybridge) ; J. Ellis (Sandown, Isle of Wight) ; F. H. Ellwood (Redhill) ; W. Harrison, John Wood, W. R. Wood, and F. V. Richardson (Brighton); Charles Foran (Portsmouth) ; H. W. Van der Pant (Wimbledon), and others.

After the minutes had been read, the President opened the discussion on Mr. Gill's paper on the "Advisability of Branches undertaking their own prosecutions in cases of alleged infringement of the Dentists Act." (See JOURNAL OF THE BRITISH DENTAL ASSOCIATION, August, 1896.) A long discussion followed, in which the following members joined: Alderman Rymer, Messrs. J. Smith-Turner, M. Hughes, J. H. Reinhardt and J. C. Foran. Mr. Gill replied. No resolution was put to the meeting.

Mr. Vernon Knowles read a paper on "A simple method of making Collar Crowns,' during which Mr. Knowles handed round specimens of his method in various stages. The paper was ably criticised by Messrs. Hughes, Reinhardt and others, and Mr. Knowles replied.

The members dined afterwards at the "Angel," when £2 10s. was collected for the Benevolent Fund.

Midland Counties Branch.

MEETING AT BUXTON.

THE autumnal meeting of the members of the Midland Branch of the British Dental Association was held at Buxton, on Saturday, October 24. A meeting of the Council was held in the afternoon and the general meeting in the evening, when Mr. F. Harrison, M.R.C.S., L.D.S. (Sheffield), President, presided. There were also present:—Messrs. I. Renshaw, Hon. Secretary, (Rochdale); Thomas E. King (York); G. Brunton, J. Charters Birch (Leeds); W. Somerville-Woodiwis (West Hartlepool); W. R. Birkett (Huddersfield); G. G. Campion, E. Houghton, F. W. Minshall, P. A. Linnell, W. A. Hooton, G. O. Whittaker, David Headridge, J. P. Headridge (Manchester); A. B. Wolfenden (Halifax); G. H. Lodge (Rotherham); W. E. Harding (Shrewsbury); Thos. Gaddes (Harrogate); Charles Stokes, F. G. Mordaunt (Sheffield); T. W. F. Rowney (Derby); Thomas Gibbons (Stockport); I. E. Sutton, James A. Lee (Buxton); A. A. Matthews (Bradford); and J. H. Jones (Sale).

The CHAIRMAN, who was received with applause, called upon Mr. J. P. Headridge (Manchester) for a paper on "Some Points on Gold Filling."*

The CHAIRMAN congratulated Mr. Headridge on his very valuable contribution. He then invited discussion upon it, which was opened by Mr. W. E. HARDING (Shrewsbury), who stated that the point he wished to criticise was the one with regard to non-cohesive gold. Mr. Headridge had spoken somewhat cursorily on the subject. He objected to the wedge-shaped cavity. A wedge-shaped cavity was a very bad one to fill with non-cohesive gold. A typical good cavity for filling was a parallelogram. He never used No. 4 foil, it was a great deal too thin to use non-cohesively. He seldom used anything under No. 6, and in large cavities No. 8, and molar cavities No. 10. He used the foil in the form of rope, cut it into short lengths, having alternately a square end and point.

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* To be published in a future issue.

Mr. G. O. WHITTAKER (Manchester), following, said they were greatly indebted to Mr. Headridge, but he did not seem to lay very great stress upon the cavity. He (Mr. Whittaker) believed in using non-cohesive foil and leaving the edges quite square. He was a strong advocate of tin and gold, because it was so much more easily finished off, and one got a better contour.

Mr. G. BRUNTON (Leeds) said he looked upon the paper as a very instructive one, but he should have liked a little more information on two or three points. His own experience had led him from all the different mechanical, electrical and automatic mallets to the hand mallet, and finally to hand pressure, which he almost invariably applied. At a recent meeting of the Odontotogical Society in London, a very valuable communication was made by Mr. Matheson, in which he laid very great stress upon the value of hand pressure alone ; in fact, he did nearly all his work by hand pressure. A great mistake was made by many operators in beginning filling with hand pressure and finishing with a mallet. Faulty work was done by giving heavy blows with the mallet on the surface of the gold, and so forcing down the gold which had been done by hand pressure away from the walls, with the result that a leaky filling is produced. Then as to filling with the De Trey's gold. It had been mentioned that it was a new form of gold, and was so dense and so hard that it was difficult to finish the surface after filling. He had employed that gold for some time, and he had finished it off as easily as one could finish off any other filling, by using the Alpmêr stones which cut and polish at the same time.

Mr. D. HEADRIDGE said when they came to consider the enormous pressure on the filling in mastication, a pressure of 100 lbs., it showed that there should be very full condensation of the non-cohesive gold. Taking the great advantage of non-cohesive gold filling, he did not think it was an element of weakness to use a mallet. If thoroughly condensed they got a filling which would not give way. He was in favour of Hasband's pluggers. When they used them he thought they got such a thorough condensation of the gold that, however heavy the mallet, they did not cause it to draw away from the walls.

Mr. F. G. MORDAUNT (Sheffield) thought that before putting on the matrix it was far better to line your cavity thoroughly and then force the matrix down to the cervical edge.

Mr. J. H. JONES (Sale) said that he was a great lover of "tin." Where tin could be used a very great advantage was got that could not be obtained by using gold. He agreed too that they had a decided advantage in finishing off if tin were used. They could get a contour in tin finishing that they did not get in gold. He laid stress upon the fact mentioned by Mr. Whittaker, that dentine could be cut away and a square edge left. In that way they got a good finished solid foundation and the best work. He had used hand pressure for ten or twelve years, and he depended more upon it than on anything else. They could get good results without breaking down the edges, but when it was used too freely there was a tendency to get the edges crinkled and broken down.

Mr. J. P. HEADRIDGE briefly replied.

Mr. W. A. HOOTON (Manchester) brought forward a casual communication, entitled "Some Cases of Antral Abscess." He did not suppose there would be much of it but what was well known to all the members, but there might be one or two points in the treatment that might not be known to everybody. To begin with actual cases, the first case was that of a gentleman, a clergyman, about 40 years of age. About a year ago he began to be ill, but the symptoms were very vague. He was losing flesh. There was some slight discharge from both nostrils of a very unpleasant odour, to which he seemed to attach enormous importance. He consulted his medical man, but no diagnosis was arrived at, the patient seeming to be more ill than the symptoms would apparently warrant. He was sent for a sea-voyage but came home considerably worse; then he consulted another medical man, who thought it would be advisable to examine and see if there were not antral mischief. Electric illumination of the mouth was employed. There was practically no difference between the two sides of the face. Still the discharge was going on, getting more and more profuse. His medical adviser therefore decided to operate, and the patient was put under chloroform. The first molar on each side was extracted, the one being carious and the other free from caries. The removal of the tooth was followed by a full flow of pus. Ellis's spiral drainage tube was put in. It was made of spiral wire and very easy to apply. It held itself in place very well and would not slip downwards; it was prevented slipping upwards by making a twist of the wire, or, as in this case, by attaching the wire to a neighbouring tooth. The operation was performed on June 1. The actual mischief was on both sides, but they could find no cause at all. The discharge gradually lessened until now there was scarcely any at all. There seemed to be a feeling that there was a great danger in letting the cavities close up too soon. It was suggested that the patient should go on for six or eight months at least before the opening be allowed to close. In one case he knew of a tube was worn for two years. A weak solution of Condy was used, twice a day at first, and once a day afterwards. When the patient used this solution it brought on a fit of sneezing, and a common salt solution was used, a drachm to a pint of water.

The next case was that of a young lady, 28 years of age. This was a case with a rather long history. Early last year she appeared to have a lot of pain on the right side of the face. Some stumps were extracted; one, a fractured tooth, was left in and gave rise to pain afterwards. In January of this year the right nostril became affected, and discharge had gone on ever since. The case seemed to be a clear one. The discharge varied according as the patient lay on the sound side or the diseased side—on the sound side it discharged all night, if lying on the diseased side there was no foul pus. Things culminated six weeks afterwards, when she went to Mr. Lightfoot, at Blackpool. He diagnosed the mischief. The stump left in was extracted, but nothing else was done at the time. He passed a tube through the nasal opening of the antrum and a profuse discharge took place. He (Mr. Hooton) opened up the antrum—using an ordinary gimlet, which he found answered very well. He got, as he thought, into the antrum, but nothing followed. The patient went home and used a syringe, and the first time she used it there was a free flow of pus through the nose. For the following four days there was a great deal of pain. The point about this case was that there was no drainage tube—it had been left to nature, and it had not closed up. As a rule that would not be the result, the tendency being for the opening to close up of itself. Another case was treated with gauze. When closed up pus was forming and there was no escape for it. He had had a letter from Mr. Matheson and he very kindly sent him some plugs which he used himself. In conclusion, Mr. Hooton said he thought this one point was fairly established, *i.e.*, in the treatment of these cases they must keep the drainage open right through the whole course of the case.

The CHAIRMAN said they had had a most interesting paper and description of the cases. He had followed it with very great interest. Most of them had such cases to treat, and they were always very glad to have them so clearly described to them, because some point was sure to be developed which was possibly of great help to them in the future. He remembered one case of antral trouble; it was a young woman, 30 years of age. The molar on the left side was affected. He removed it and discovered there was an enormous amount of discharge. There was a discharge at night which was a great nuisance. The antrum was opened in the usual way and a considerable enlargement of the drainage tube did not seem to do any good at all. It was not until the whole floor of the antrum was removed that any cure was made of the case. He found the antrum full of a gelatinous substance. Drainage in this case would have been no use at all.

Mr. J. E. SUTTON (Buxton) also recounted a case for which he had made drainage tubes. The tubes were made with a flange to fit the surface of the gum, and to prevent them slipping up into the antrum — and the gold artificial denture could be worn over them. In this case the cavity was washed out on the system of the syphon. A vessel containing a weak solution of chloride of zinc was held above the patient's head, from which an india-rubber tube with a syringe nozzle at the end was placed in the drainage tubes. The patient then swallowed a little water which caused the liquid in the glass vessel to flow down the tube and percolate through the antrum, through the nasal orifice and down the nose, thus saving the trouble of syringing out the cavity. The patient had progressed well and was almost cured.

Mr. W. E. HARDING (Shrewsbury) said the fundamental principle to be followed was free drainage. He thought a case should be syringed out at least twice a day ; the more thoroughly it was washed out and the oftener it was done the sooner they cured their case. He should like to have Mr. Hooton's idea as to the best treatment of these cases when they got sluggish.

Mr. SOMERVILLE WOODIWIS (West Hartlepool) agreed with the principle of the treatment in a free opening up of the antrum. He had always used a very large drainage tube, quite as large as a lead pencil. In a certain case the drainage tube disappeared one night. There was no trace of it. The patient thought the doctor was humbugging and practically said as much. They syringed it twice a day. After a time in trying to wash out the drainage tube they washed out the end of one of the roots. After about a quarter of an hour's search they found the drainage tube in the antrum—it was ordinary red rubber, and the patient had very little trouble afterwards. He had another case of a patient in hospital. The house-surgeon opened up the antrum and used a short rubber drainage tube. He saw the case. He told the nurse to be sure and tie the drainage tube to one of the teeth with a piece of silk. She did not do so and he had to fish it out of the antrum. He impressed upon them the importance of having the tube securely anchored. He thought the principle thing was to open freely and get plenty of solution—almost any antiseptic would do—and in nine cases out of ten they would find it satisfactory.

Dr. GADDES (Harrogate) said with regard to the first case it was mentioned that there was no apparent cause made out. It was well known that ordinary nasal catarrh would very readily pass into the antrum. He knew of one case—a case of influenza. The patient had a remarkably good set of teeth and they were all sound, so rather than sacrifice the teeth there was an opening made into the antrum through the canine fossa. Having described three cases Dr. Gaddes said they had already heard it expressed that the essence of general treatment was free drainage, a thoroughly free opening so that there could be perfect drainage ; and the second point was to avoid over treatment. Mr. Hooton had referred to an ordinary gimlet, but if instead of the cross they had a round handle there would be something to prevent your gimlet going through suddenly and injuring the roof of the antrum.

Mr. J. H. JONES (Sale) related the facts of the case of a gentleman of 34. He complained very much, especially at night, when he lay down on the healthy side. He had to get up very often and wash out his mouth. In tapping the second superior molar he noticed he felt that this tooth looked darker than the rest. He took it out but no discharge followed. The antrum was packed with cotton wool, using iodoform, the opening being kept free for some time, and the patient told to watch if any little piece of bone came out, and to his Mr. Jones's) surprise on two occasions a little piece of bone came out and the antral trouble disappeared. Instead of using gauze he opened the cavity well and plugged with cotton wool.

Mr. J. C. BIRCH (Leeds) described the working of drainage tubes in particular cases.

Mr. G. O. WHITTAKER (Manchester) related the circumstances connected with a failure he had.

Mr. HOOTON said he had never had such a case as the one mentioned by Mr. Brunton. Where you had to make a very large opening you expected the case to be protracted. Mr. Sutton had referred to syphon arrangements for washing out the antrum. The idea was a clever one, but he did not know that there was any advantage in it. If they had a syringe over which they had control it was rather better than having water works running through your head over which you had no control. As to a case being fairly sluggish he should be inclined to use caroblic, it would set up healthy reaction, whilst an iodine solution would be very good. Mr. Jones referred to the using of iodoform on cotton wool. He should not like to try it. They might have some portions left behind. He preferred a solid packing, and in one piece so that nothing could possibly be left behind. As to illumination, he believed there was some danger in the lamp getting over heated, but that could be obviated.

Mr. A. A. MATTHEWS (Bradford) read the next paper, on "Fractures of the Inferior Maxilla."*

Mr. HARDING said he had had considerable experience in fractures of the jaw—over forty cases—and he always fell back upon a Gunning splint, or modification of it. As the cases came to them principally as hospital cases, they got into the way of treating them in the simplest way possible. The best way was to take an impression of both upper and lower jaw. He then made a vulcanite plate to cover the upper jaw. It was filled up roughly and fitted in the mouth. He covered the cuspid and molar region with modelling wax. He took hold of the jaw with both hands, reducing the fracture, and pressing it steadily up into the wax. They could then put the two halves of the sawn model in the plate. They vulcanised a second time and then they had the plate. He did not like a loosely fitting plate, and filling up with gutta-percha. He agreed with Mr. Woodiwis about the four-tail bandage. He always applied a four-tail bandage when it was in position. Hammond's was the most comfortable splint. One case he had was that of a child three years old. In a rick-yard was a hay-stack seven or eight feet from the ground; the child slipped off and fell on its face on the ground, striking the chin upon a loose brick, and causing a wound that went right through into the floor of the mouth, and fractured the jaw. He made a splint for it, and the mother said she would take it home. Three days afterwards she came back with it in her pocket. The child came into the infirmary, his hands were restrained with bandages, and manipulation had to be done under chloroform.

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* To be published in a future issue.

Mr. MATTHEWS replied: He said the best way to get an opinion on a subject was to introduce it yourself. As regarded the four-tail bandage, he had the greatest trouble with a man who had one on in consequence of the overlapping of the sections of the jaw.

The CHAIRMAN said they were under a big obligation to the gentlemen who had undertaken to read papers. He proposed a hearty vote of thanks to them for their trouble.

Mr. CAMPION said they had had an extremely pleasant and profitable evening, and they were very much indebted to the gentlemen who had read the papers. He seconded the proposition.

Mr. STOKES supported the proposition, which was put and carried with acclamation, and the proceedings terminated.

The sum of £3 8s. was collected on behalf of the Dental Benevolent Fund.

Original Communications.

The Mechanical Factor in the Eruption of the Teeth, hitherto Unrecognised.

By T. E. CONSTANT, L.R.C.P., M.R.C.S., L.D.S.

INTRODUCTION.

SINCE the days of John Hunter many writers have promulgated theories concerning the eruption of the teeth. Several of these flights of fancy have met with sufficient approval to have found a place in our text-books of dental anatomy and physiology. Among those upon which this distinction has been conferred is one so preposterous, so utterly at variance with accepted views as to the development and growth of the jaws, that the only excuse that could be found for its serious consideration is that the author of it held a prominent position upon the staff of our greatest dental school. The other theories, although not formulated with the same daring disregard for established anatomical and physiological facts, exhibit such marked discrepancies when tested by the very phenomena they are supposed to explain, that Tomes is fully justified in declaring that he cannot accept any one of them as a satisfactory solution of the problem with which it deals.

It is not a matter of surprise, therefore, that the literature dealing with the subject of the ætiology of dental irregularities is so scanty and unsatisfactory, while our knowledge of so important a physiological process has been so vague. It was an endeavour to determine the causation of a very common and distressing dental abnormality that led the present writer to investigate the question of the eruption of the teeth ; for it soon became apparent that such an important factor as the force which determines the eruption of the teeth could not be ignored in considering the cause of dental irregularities, if the conclusions arrived at were to have any pretence to accuracy. Other workers in the same field must have met with the same difficulty, and it is for their consideration that the following pages have been written.

The solution herein offered disposes of obstacles that have hitherto proved insurmountable ; but the subject is one which from its very nature does not admit of experimental proof. A theory as to the working of a vital process, such as the eruption of the teeth, must stand or fall as it is found to agree or otherwise with observed and demonstrable phenomena.

In order that you may more easily form an opinion as to the value of the theory about to be propounded, the more important of those theories that have hitherto found supporters will be first enunciated, together with the chief objections that have been urged against them. Then the naked-eye anatomy of the erupting and developing teeth, and the parts immediately in contact with them, will be briefly described. This arrangement, by facilitating comparison, will best enable you to determine whether the solution offered is liable to the same objections as those it is intended to replace, and also how far it harmonises with anatomical facts —facts which the writer submits have been altogether ignored by the authors of existing theories.

Existing Theories of Eruption and the chief Objections that have been urged against Them.

One of the oldest of existing theories is that the eruption of the teeth is due to the elongation of their roots. As long ago as 1835, Thomas Bell wrote:—"As ossification proceeds the roots of the teeth continue to elongate, until first those of the incisores, and subsequently the others, can no longer be contained within the alveoli." This theory is still very popular, but against it the following *insuperable* objections have been urged. Firstly, that the distance travelled by the crown of a tooth is sometimes greater than the length of its root. Secondly, that teeth with comparatively little root sometimes erupt, while others with fully formed roots remain unerupted, and, thirdly, that teeth with roots fully formed may remain unerupted for some length of time, and then subsequently erupt.

The following quotation from an article by Dr. Peirce, entitled "The Eruption and Structural Relations of the Deciduous and Permanent Teeth," in the "American System of Dentistry" (1887), clearly shows that there are some writers who even yet regard this theory with favour. He says:—"The absorption of the super-imposed tissue from the advancing crown, and the elongation or growth of the root by an increase in the pulpy mass or formative tissue and its calcification, are the progressive developmental processes which we term 'eruption of the teeth.' . . . The force by which the teeth are propelled toward and through the mucous surface into position, is thought by many to be something in addition to that indicated above as the result of normal growth."

In explanation of the eruption of teeth with unformed roots, Dr. Peirce writes in the same article:—"The question at once arises whether such premature presentation of the tooth crown is not wholly due to an absorption or wasting of the super-imposed tissue, rather than to the elevation of the crown, which could not well take place without the growth of root, unless it were from the contraction or an expulsive effort of the tooth follicle."

The same writer offers the following ingenious explanation of the eruption of teeth with roots that were fully formed some time previously:—"There is a mechanical force, however, acting on all such teeth, tending to bring them to the surface, the same as on an unantagonised tooth, inducing its elongation or protrusion from the socket. The repeated closing of the jaws must exert to a large extent this mechanical force, just as the bung in a barrel is elevated by a blow being struck upon the stave on either side of it."

Tomes' explanation of the same phenomenon is not quite so ingenious, but, as will appear later, is not less unsatisfactory. His account of the eruption of a canine tooth of a human female at the age of 45 is as follows:—"Supposing it, then, to be admitted that the tooth was completely developed before the process of cutting commenced, the process itself must be in some respects different from that which occurs when teeth are cut and under ordinary circumstances. When the process is normal, as respects time and the stage of development of the tooth, the crown appears through the gum long before the root has attained its full length. The crown is in great part brought towards the surface of the gum by the progressive lengthening of the root, and is afterwards still further raised by the same process. Now, when the eruption is accomplished subsequent to the development of the root, the movement of the tooth must be effected by some other means than by the progressive lengthening of the root. The completed tooth has to change its place without itself undergoing any change. The bone which stands in its way must be absorbed, and the lower portion of the socket from which the root of the tooth curves must be contracted by the deposition of the bone. Indeed, in the absence of a better hypothesis, it may be assumed that the gradual contraction of the socket is the means used by nature for bringing teeth to the surface when the process of eruption has been delayed beyond the normal period. In the one case the movement is effected by the development of bone within the alveolus, in the other by the progressive development and consequent lengthening of the tooth."

Another theory that for a time held sway was that of Delabarre. The following account of it from Harris' "Dental Surgery" (1863) is almost touching, and shows the fascination it exercised over lovers of analogy. "The able physiologist and learned dentist, Delabarre, has advanced a most ingenious theory upon this subject. He believes that the passage of a tooth through the gum, or rather its escape from its crypt, is effected in precisely the same manner as is the birth of a child. He regards the sac, attached above to the gum and below to the neck of the tooth, as the chief agent in the eruption, and believes that it is by its contraction that the latter is raised from the bottom of the alveolus, and ultimately forced through the dilated orifice of the capsule and gum. This is the most rational theory that has been advanced; it explains upon principles of sound physiology this most wonderful and curious operation of the economy."

This romantic theory lost favour chiefly because its most ardent supporters were unable to demonstrate the slightest resemblance between the dental sac and the female organ to which they imagined it was analogous. It would not have been included here, were it not that a passage in one of the above quotations from the writings of Dr. Peirce indicates that the theory has not yet lost all its pristine power.

It must have been the improbability of Delabarre's theory that encouraged Coleman to propound another, the acceptance of which would involve the abandonment of existing views as to the growth and development of the jaws. He imagined the teeth to be carried to the surface by a series of "bone currents"—in other words, by interstitial growth of bone peculiar to the jaws—and then laid bare by the absorption of the alveolar margins. The reluctance displayed by our leading physiologists to lay aside their views as to the growth of bone, and to accept Coleman's, no doubt largely accounts for the modified enthusiasm with which his theory has been received. The greatest objection to it, perhaps, apart from this, is that while it accounts more or less satisfactorily for the eruption of the teeth, it fails to explain how it is that some teeth never do erupt. It is difficult to imagine a lateral or canine tooth stemming the tide of bone currents that its immediate neighbours have found it impossible to resist.

Another theory is, that the teeth are raised by a deposit of bone at the bottom of the crypts in which they are contained; and yet another (which is the last to be considered here) is that the teeth are forced into their destined places by contraction of the alveoli. Of these two theories, the latter would only account for the eruption of such teeth as have a single conical root, because in the case of teeth with two or more roots such contraction would tend to retard rather than assist eruption; while the former rests upon an assumption for which, as we shall see, there is absolutely no foundation.

The Naked Eye Anatomy of erupting and developing Teeth, and the Contiguous Parts.

In the jaws of a nine-months fœtus the partially calcified cusps of the temporary teeth are embedded in soft gelatinous material which is enclosed in bony crypts. The calcified portions of the developing teeth are not at any point in contact with the walls of the crypts in which they are severally contained, but on every side the gelatinous material intervenes. Later on, as calcification proceeds, the cusps more nearly approach the walls of the crypts—which latter do not appear to undergo any enlargement. When the crowns of the developing teeth are fully calcified, the walls of the crypts have undergone partial absorption, the bone covering the cusps of the molars and the labial surfaces of the incisors being removed. Even at this time there is no actual contact between the crowns and the remaining walls of the crypts—the nearest approach to contact being around the sides of the crowns. Between the bases of the crowns and the floors of the crypts there exists a varying, but always easily appreciable space filled in with soft vascular tissue, which extends up between the sides of the crowns and the walls of the crypts. From this time onwards, coincident with root formation, elevation of the tooth crown takes place, and what was the wall of the crypt becomes the socket of the root, but between it and the forming root is the same vascular tissue that separated the calcifying crown from the floor of the crypt. After the tooth crown has emerged from the gum, and before the root is quite complete, the tissue between the upper part of the root and what we should now term the alveolar wall (viz., the crypt wall which has grown up with and around the tooth) loses its gelatinous character, becoming somewhat tougher and more adherent to the root and to the alveolar wall, but it maintains its gelatinous character between the base of the root and the floor of the alveolus. After the root is fully formed the whole of the gelatinous material on the outside of the root assumes the familiar appearance of the peridental membrane.

In all essential points the process of eruption of the permanent corresponds with that of the temporary teeth. The physiological process of absorption which assists in the removal of the temporary teeth is probably identical with that which removes part of the crypt wall to admit of the elevation of the crowns of the temporary teeth.

[Mr. Constant at this point drew attention to dry specimens and recent preparations illustrating the anatomical relations of the parts in question.]

Dissection of the jaws of the lamb and the pig evidences, from the similarity in the anatomical disposition of the developing teeth and the adjacent parts, that the mechanism of eruption is the same in the case of those animals as in the human subject. The only observable difference is that the gelatinous material is present in greater quantity.

In the case of animals with teeth growing from persistent pulps, it is important to note that the anatomical relations of such teeth are precisely similar to those of human teeth with partially developed roots. In other words, a tooth growing from a persistent pulp has its root embedded in gelatinous material, and is nowhere in contact with its bony surroundings. It is fair, therefore, to assume that the force which thrusts forward the tooth with a persistent pulp is identical with that causing the eruption of a developing human tooth.

THE MECHANICAL FACTOR IN THE ERUPTION OF THE TEETH HITHERTO DISREGARDED.

From the foregoing description it is evident that the only one of the theories previously enunciated which has any semblance of anatomical foundation, is that which states that the eruption of the teeth is due to the elongation of their roots. There is no evidence of "bone currents," of a contractile sac such as assumed by Delabarre, or of a deposit of bone at the bottom of the crypt.

[Mr. Constant here drew attention to a dry specimen, of which the accompanying illustration (p. 731) is a diagram.]

It shows as clearly as possible that the distance of the bottom of the crypt containing the second molar from the inferior dental canal is very little less than the distance of the apices of the roots of the first molar from the same landmark. It is clear, therefore, that the eruption of the first molar could not have been due to bone deposition upon the floor of its crypt. Reference to the same illustration will also convince you that narrowing of the alveoli containing the roots of the first molar would have retarded rather than assisted its eruption.

[Mr. Constant here drew attention to a dry specimen showing an erupting canine tooth.]

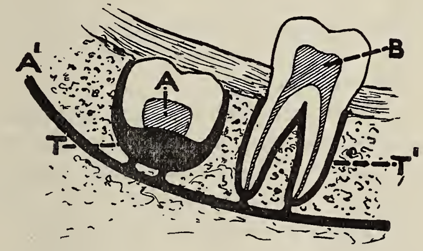
The crown has further than half an inch to travel before it is fully erupted, while the root is all but complete. This is not at all an infrequent circumstance, particularly in the case of canine teeth. It is obvious, therefore, that elongation of root would not account for the eruption of these teeth. We may conclude, therefore, that although elongation of the root of a tooth is almost invariably coincident with its eruption, it is not the cause of it.

It appears to the writer that the chief objection to the root elongation and bone formation theories is a physiological one. It is extremely difficult to conceive such a process as dentine formation exercising independent mechanical force! But, granting that it might do so, upon what structure is that force exercised—in other words, to put the matter clearly and concisely, if somewhat vulgarly, What does the root shove against?

Since the forming root is never in actual contact with its bony surroundings, it must necessarily be against the vascular material in which it is embedded. Now this tissue appears *post mortem* of far too jelly-like a consistence to oppose any effective resistance by virtue of its own structure—and yet such resistance there must be or the tissue would be obliterated. Whence, then, are its resisting properties derived? Necessarily from the blood pressure. Therefore, assuming that the physiological process of dentinification *can* exercise independent mechanical force, and *is* a factor in the causation of eruption, it must, since action and reaction are equal and opposite, divide the honours with the blood pressure—a factor hitherto quite unrecognised. Indeed, it is obvious that any *vis a tergo* must act through the vascular material surrounding the root, and it follows that such force cannot be greater than the blood pressure, or it would cut off the blood supply to the root. But is a force other than the blood pressure a necessary hypothesis when we consider the exceptionally advantageous conditions under which it acts? Let us illustrate these conditions by a diagram based upon a previous illustration.

A is the calcified crown of a molar tooth covered above by the soft tissues of the jaw, but otherwise surrounded by bony walls, from which it is separated by a soft and gelatinous but extremely vascular tissue, T. This tissue is injected by the force of the blood pressure entering almost directly from A^1, an artery of considerable size.

B is a fully erupted molar with its roots embedded in a tissue T^1, which is extremely vascular but is tougher than T, although, like T, it is enclosed by bony walls.



When we consider these conditions in conjunction with the pulsating and expansive force exercised by the blood pressure, does not the necessity for another eruptive force disappear, and Dr. Peirce's bung-and-barrel explanation of the elongation of unopposed teeth become somewhat superfluous?

If we assume that the blood pressure, acting in the manner above described, is the sole active mechanical factor in determining the eruption of the teeth, will it account for the phenomena other theories fail to explain? That the crown of a tooth sometimes travels a distance greater than the length of its root, that teeth sometimes erupt subsequently to the formation of their roots, and that teeth with comparatively little roots occasionally erupt, are facts all in favour of such hypothesis, and can be explained by it.

The fact that teeth with fully formed roots remain unerupted can be more easily explained by this theory than by any other, because it alone can account for the space obtained for the fully developed roots which often occupy abnormal positions. In other words, the blood pressure, acting as it does equally in all directions, makes room for the developing root in the direction of least resistance. Normally, this is in the direction of the advancing crown, but occasionally it is elsewhere.

The continuous eruption of teeth with persistent pulps, which neither Delabarre's nor Coleman's theory could possibly explain, is a very simple problem if we admit the blood pressure as the active mechanical factor. The eruption of the teeth of crocodilia, which Tomes asserts cannot be accounted for by any theory hitherto advanced, is the strongest possible evidence in favour of the blood pressure being the active mechanical agent concerned in the eruption of teeth. The shape of the teeth and of the alveoli, and the disposition of the intervening vascular tissue, all admit of the blood pressure acting at even a greater advantage than in the case of teeth with persistent pulps.*

The writer is therefore of opinion that upon anatomical and physiological grounds alone we are justified in assuming that *the blood pressure exerted in the vascular tissue which lies between a developing tooth and its bony surroundings is the active mechanical factor in the process known as the eruption of the teeth.*

Clinical experience adds its quota of evidence which must not be neglected. We all know of the tendency of unopposed teeth to elongate, even some time subsequently to the completion of their roots, and when the peridental membrane has become extremely fibrous and the alveoli considerably narrowed. If we have any doubts in the case of healthy teeth, as to whether this elongation is due to the normal blood pressure exerted in the peridental membrane, they should surely be dispelled by the clinical phenomena that present themselves when the blood pressure is pathologically augmented—in other words, when inflammation of the peridental membrane supervenes.

Certain pathological phenomena, too, become more comprehensible when viewed by the light of this theory, but that aspect of the question is worthy of separate consideration.

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* The writer has had no opportunity of personally investigationg the anatomical relations of reptilian teeth. He relies for the grounds of the above assertion upon Tomes' admirable description and illustrations of the subject.

DISCUSSION.

Mr. C. S. Tomes: The factor brought forward by Mr. Constant is a very possible one, and it is certainly one hitherto overlooked. Of course with regard to a matter which is sprung upon one it is not possible to offer very many remarks. It occurs to me that this idea of the blood pressure thrusting the tooth forwards may be, and probably is, a true factor, but the circumstances in which it occurs are perhaps a little more complex than Mr. Constant's presentment of the case might lead one to suppose. Blood pressure is of course equally distributed in all directions so long as the tooth is surrounded by vascular tissue, and an erupting tooth, before it is erupted and got clear of the gum, has blood pressure in front of it as well as behind it. I rather take it it would be Mr. Constant's idea, though he did not express it in so many words, that in the tissues in advance of the tooth—in the gum for instance—the blood pressure was kept in hand by the walls of the vessels, whereas in the tissue which he has many times emphasised as gelatinous, and the tissue which is underneath it, the blood vessels have possibly less muscular tissue in their own walls, and so you have the blood pressure not confined in comparatively rigid tubes, but let loose to act on the so-called gelatinous tissue. I do not know whether that was Mr. Constant's idea or not, but there is something necessary to enable us to form any idea of a blood pressure underneath a tooth overcoming a blood pressure up above the tooth. As Mr. Constant drew his diagram upon the board of the crypt containing the tooth partially formed, and then a space underneath it occupied by a gelatinous tissue, and that space entered by a certain limited number of vessels, the idea passed through one's mind that the arrangement was (with a good many exceptions) a little like the arrangements of a hydraulic press, in which you have one little tube containing water under the pressure expanding out into a big chamber, and the same pressure existing over the whole area, therefore the effective force is much greater. However, I do not feel in a position to discuss the question very much at a moment's notice.

Mr. T. E. Constant, in reply, said: It is a great pleasure to me to have an accredited scientist such as Mr. Tomes speak on this subject. With regard to the suggestion he has made, I must say that that had occurred to me as a very strong objection against my theory; but in the jaws I examined I was struck first of all by the great difference between the surroundings, so to speak, of the tissues overlying the tooth and the tissue underlying it, and also by another thing that did not occur to me at once, but which can be easily demonstrated by experiment.

[Mr. Constant here sketched upon the blackboard a diagram of an apparatus intended to roughly reproduce the mechanical conditions that are present during the eruption of the teeth, and pointed out, by its means, that although there was blood pressure above the teeth as well as below, the former was, as it were, unsupported, while the latter had an acting point in the hard and unyielding walls surrounding it.]

Mr. Constant then went on to say that he had purposely confined his remarks to the purely mechanical aspect of the question, as it was that that had been overlooked. He concluded by saying :—As Mr. Tomes has said, one cannot in a moment make up one's mind on such questions, but I hope that if at any time anyone finds there is any insuperable objection to this theory, I shall be at once informed of it, because one does not wish to perpetuate a fallacy. At present I simply put it before you for consideration, and trust that at some future time it may be further discussed.

Notes on Dentinal Tubes.

By C. S. TOMES, M.A., F.R.S.*

I MUST commence by an apology for the fragmentary and inconclusive nature of the paper which I have to present to you. I was pressed to contribute something to the Microscopic Section, and as I have lately been engaged in researches of another kind I was compelled to go to my note books to see what I could find that had not been published and which should yet be of some interest; but had it not been for the occurrence of this meeting, the observations which form the subject of my paper might have been long ere they saw the light, being, as you will only too clearly see, very fragmentary and incomplete. However, sometimes even incomplete observations may be suggestive, and it is in that hope that I venture to offer them.

What we may term the normal relation of dentinal tubes to the pulp, namely, that found in man, in which each dentinal tube is penetrated by a permanently soft fibril which springs from an odontoblast cell, is familiar to all of us, and I will not detain you by going over the anatomical facts, being here sufficiently well known. But the physiological interpretation of these facts is less assured than their anatomy; indeed, it may be said that their interpretation would be simpler if we knew of no other relations. But when we come to look at other animals, we find that the carrying of nutrition or of sensation by means of the dentinal fibril can hardly be the only function of the tubes, inasmuch as there are endless instances of dentinal tubes, the relations of which to a soft pulp are entirely different. It is to some of these that I propose to call your attention, in order to ascertain, if possible, what can be predicated of their function, which shall be applicable to all dentinal tubes.

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* Read at the Annual General Meeting, August, 1896.

The first thing which strikes one is that some sort of tube system is exceedingly common in all sorts of calcified tissues, so that it is the exception for them to be without such ; a structure so widely distributed must have a meaning, could we but tell it. Though a system of fine long tubes is by no means confined to dentine, it finds its fullest development in that tissue. The spines of many fish, closely related of course morphologically to teeth, present examples of it ; and so do the bones of certain fish. Those shown upon the screen are fair examples of it, though better might be found.

Before proceeding to note any peculiar relations of dentinal tubes it will be worth while to look for a moment at those teeth in which it is absent. When we find a tooth which has no fine tubed dentine at all, but is composed wholly of some variety of vascular dentine, we may at once conclude that it has no hard work to do. Such teeth as those of the hake, for instance, have little function but to capture and prevent the escape of comparatively soft animals ; the dentine has practically nothing to do but to serve as a support to a spear head of enamel. Thus we may at once say, that all dentines known to us which have the fullest function to perform as teeth, are permeated with fine tubes.

The first, and in some respects the simplest, departure from the normal is that in which the dentinal tubes certainly at first held the normal relation, but subsequently became cut off by the filling up of the pulp cavity, this occurs in many teeth of persistent growth. In the incisors of some rodents the formation of normal dentine goes on in the older parts of the tooth until there is but a very small residual central channel, which becomes blocked by a sort of secondary dentine on the axis of the tooth ; here we have but a small departure from the normal relation of dentinal tube to pulp occurring, so to speak, at the last moment. In others, as for example, the hare, vascular canals begin to be present long before the axis of the tooth is reached, though there is no abrupt transition from the compact dentine of the exterior to the more widely channeled dentine of the axis. In the beaver there is quite a different arrangement; the formation of compact dentine ceases abruptly with a sharp line of demarcation, and the axis of the tooth consists of a coarse, rude kind of vascular dentine which forms a material proportion of the whole thickness of the tooth.

In the tooth of persistent growth of the armadillo, the axial part consists of a more or less tubular structure in which the tubes are gathered into bundles and run down the axis of the tooth, but only a very few of the dentinal tubes of the outer layer make any connection with them. And it is not uncommon to find them absolutely sealed off by a clear and apparently structureless layer; this may be seen in some rodents, but it is very conspicuously shown in Orycteropus, in which the tubes fall very short of the axial canals.

In all these cases it is clear that the dentinal tubes have lost touch with the pulp and its constituents, but it may be said that they have begun by normal relations which they have only lost at the end of their career, that is to say, when the period of their being worn away on the working surface of a tooth of persistent growth is imminent.

There are, however, plenty of teeth in which the dentinal tubes do not, except in the very early stages of development, radiate from a pulp cavity at all. Thus in the common pike there is but a thin layer upon the outside of the tooth which contains parallel fine tubes, the whole interior being made up of a bone-like tissue with large and more or less irregular canals; where these canals are near the surface and parallel to it the dentinal tubes radiate out from them, breaking out into brush-like forms; here then the tubes are certainly not related in the ordinary way to odontoblast layer. In the Sphyræna the fine-tubed layer exists just as in the pike, but it differs in that it has a smooth and defined margin towards the interior of the tooth. This interior is made up of a tissue in which the vascular channels are uniform in calibre, and are arranged with great regularity in elongated loops. A canal often borders the edge of the layer of fine-tubed dentine, which is then in relation with a canal large enough to carry one fair-sized vessel but little more.

In some teeth we have also a fine-tubed outer layer, the whole interior of the teeth being filled up with a very solid sort of irregular calcification, probably with little vascular supply in the completed teeth. In a Siluroid fish the species of which I cannot identify, there is a thick outer layer of fine-tubed dentine surrounding a core in which though, a large number of wavy fine tubes also exist, there is a conspicuous system of vascular canals of uniform calibre with the convexities of the loops looking outwards, and, apparently, the fine tubes of the dentine springing out from them. In Lepidosiren there is yet another arrangement; here the dentinal tubes are gathered into bunches, a number of tubes in the same bunch having a common origin and springing ultimately from some of the larger canals in the deeper part of the tooth. Here, again, it is impossible to suppose that the ordinary relation to odontoblasts can exist in the completed tooth at all events.

Now it is a law of nature to which there is no exception, that a structure which is universal is in some way functional, that is to say, the ordinary processes of selection will remove structure which is superfluous by a sort of law of economy, and hence we may fairly conclude that a fine tube system is of great service to actively functional dentine. And it is almost equally certain, from the examples which I have given to you, that sensibility and nutrition can hardly be its only uses, inasmuch as we find it in teeth in which it can, by the time that the dentine comes into use, not serve either of these purposes.

It is not the only way in which calcified tissue can be made, for we have enamel, bone and dentine which do not contain tubes. The property which it may perhaps confer upon dentine is that of elasticity. Ivory, which is very abundantly tubed dentine, is one of the most perfectly elastic tissues known, and enamel, which has no tubes, is exceedingly brittle.

Enamel is incapable of alteration of form without some disruption of its parts. A billiard ball is being altered in form with every blow, and returning to its form an almost indefinite number of times. This idea must not be strained too far; steel is elastic but it is not tubular; still I think we may say that of calcified tissues the most tubular are the most elastic. But whilst I would set elasticity into some prominence as a reason dentine should be tubular, yet we must not lose sight of other purposes which it fulfils. Thus the organism is intolerant of absolute unorganised things, and the tube systems of dentine perhaps serve as an easy transition from the more highly organised tissues to the enamel, which, as I have recently shown, is practically inorganic, inasmuch as some dentinal tubes are occupied by odontoblast processes, whilst by no abrupt transition they pass into a tube system cut off from all contiguity with vascular parts.

There is one other relation of the dentinal tubes to which I would call your attention for a moment. In some dentines fine tubes co-exist with larger vascular canals, and the passage from the one type of structure to the other presents some points of interest. The disappearing vascular canals fine down towards the pulp into canals no larger than ordinary dentinal canals, as is seen in Sargus, so that some dentinal canals may be said to end in vascular loops.

In the manatee a particularly curious condition exists. Large canals, which no one familiar with the look of such things can doubt to be old vascular canals, exist with regularity near the outside of the dentine, and dentinal tubes from the part of the dentine which contains such larger canals enter them. But these obliterated vascular canals are almost like a chain of interglobular spaces; is it possible that the granular layer of dentine is a last survival of vascular canals, and that it so points to the evolution of all dentine from an original early vaso-dentine? This of course is a mere speculation, and must be taken for what it is worth.

DISCUSSION.

Mr. J. H. Mummery: I have been exceedingly interested in the explanation Mr. Tomes has given of the evolution of tubular dentine from vascular dentine, and it certainly seems to be a scientific explanation, and accounts for the mixture of tubular and vascular dentine together. It is very difficult to explain why these tubes are rigidly connected with cells and afterwards become cut off. I think in the pulp of human teeth we frequently see things described as tubes which are not tubes at all, but are really fibres penetrating the calcified material. I think many of those in pulp stones are not ordinary dentine tubes, and are not connected with the odontoblasts.

Mr. F. J. Bennett: In the interesting speculation Mr. Tomes has made I am sure we shall find much food for reflection. One remark he has made strikes me as requiring specially, a little careful thinking over—his explanation as to the elastic condition of dentine. There is a difficulty which may, on mature thought, pass away, namely: How is it the enamel, the densest structure in the body, and a highly rigid one, covers one highly elastic? If elasticity in the dentine is to enable it to guard against jars and undue force, how is it that it is capped by a more rigid substance? It has occurred to me to ask also whether we are not justified in considering a portion of the primary dentine, cut off from the pulp by secondary dentine, as a dead structure. Another point is, are we not justified in looking on the tubular nature of dentine as merely a transitional stage from fibril to matrix, a condition like that in the formation of a bone lacuna, where, starting from an entirely soft cell, it becomes, by progressive calcification, converted into a series of tubular canaliculi. It seems to me it may be so with dentine.

Mr. CAUSH: The remarks of the last speaker tended to confirm in my own mind the theory Mr. Tomes has introduced. We have on the outside, according to Mr. Bennett, a substance that has no elasticity at all; we have then, in the centre a very important substance, the pulp: supposing there is no possibility of elasticity between the enamel and pulp every time there is the slightest amount of undue pressure it must of necessity be conveyed to the pulp. As a consequence, if the tubuli spoken of by Mr. Tomes act as a cushion, which they seem to me to do, we should look for elasticity not on the outside but in the inside.

Mr. TOMES, in reply said: With reference to the point raised by Mr. Bennett as to the deadness of certain portions of the dentine, that very matter occurred to me only this morning. I was looking under the microscope at a specimen of Mr. Charters White, in which he has succeeded in filling the tubes of the dentine of various teeth with stained collodion, and his specimen goes to show that the tubes in the transparent zone, in caries, are permeable to some extent by collodion. I suggested to Mr. White that he should set to work and see what the condition as to permeability is in the dentinal tubes of a rodent's tooth, and Mr. White has agreed to do so. As to the matter of these secondary dentines with lacunæ spaces and various irregularities in them being the form in which vascular dentine ceases to be vascular and becomes a tubular dentine, I think it is quite possible that there may be something in the idea. We certainly do find that in places where there has been a little difficulty in the formation of the regular dentine, we get a dentine of that type formed. Then with regard to the point raised by Mr. Caush as to the rigidity of a whole tooth, I think the explanation he offers is a perfectly true one. As some of you know, I have been working on the subject of enamel during the last year, and I have shown that it is a tissue almost devoid of animal matter. Those of you who care to look can see in the room upstairs prisms of enamel from a young elephant's teeth in their natural condition and prisms of enamel from the same teeth which have been calcined in a strong red heat in a muffle furnace ; and you will find there is no material difference between the two. You have to carry a dead and inelastic tissue, and you have to carry it in continuity with a highly sensitive tissue like the pulp and periosteum, and you bridge between the inelasticity of the one and the sensitiveness of the other by a tissue of intermediate elasticity. There is one point Mr. Caush did not mention. Supposing the whole tooth were as inelastic as the enamel, then not only would the shock be conveyed to the pulp, but it is highly probable that the whole tooth would split right down to the pulp under a strain which at present it bears quite well. That would be extremely inconvenient.

An Improved Method of Making a Pin-Bridge.

By Wm. M. GABRIEL, M.R.C.S., L.D.S.Eng.

There are few of us, I think, who have not experienced both difficulty and regret when replacing with a plate substitute a single missing incisor; that is, difficulty in retaining the plate securely in position, and regret in being compelled to initiate the patient into the wearing of a plate with all its well-known disadvantages. I refer to those cases in which the root has been removed either through ignorance or necessity, or in which the tooth has been through violence entirely luxated from its socket and not replaced, as it undoubtedly should be after appropriate treatment. In such cases, if the other teeth are close together, it is almost impossible to get any secure fastening, and atmospheric pressure and adhesion being the sustaining forces, a large plate is a necessity, and however much the dentist may admire such work, it is frequently difficult to bring the patient round to this view of the case.

Dr. W. F. Litch (*vide* "Evans' Crown and Bridge Work," second edition, p. 236) has successfully treated such cases (see fig. 1), but to practitioners of average attainments his method is nearly impracticable. It is almost impossible, certainly difficult in the extreme, to accurately fit and solder the three portions of gold together (*vide op. cit.*).

Having been able to greatly simplify the solution of the difficult problem of the insertion of a single tooth, and having successfully, I venture to think, demonstrated this at our recent annual meeting, is my excuse for intruding at some length on the valuable space of this Journal. The way in which I was led to adopt my method is instructive, showing clearly as it does the principles involved.

Dr. Fred. R. Sandusky published in the *Dental Cosmos* (October, 1895, p. 903) a method of backing teeth to avoid fracture of the porcelain. With the few modifications I have introduced, his method is as follows:—Taking any of the six anterior teeth, with pure gold (Stubb's gauge, No. 5 easy) back the porcelain facing, the gold being allowed to extend over, and being well burnished to the bevelled cutting edge (see fig. 4). In difficult cases, such as pointed canines, it may be better after burnishing to the bevelled edge, to dress the gold off even with the labial surface of the facing. Up to this stage the pins are still left standing in their original position. Cut another backing of 22-carat gold (No. 5, tight), same size as the first backing, letting this piece extend straight beyond the cutting edge instead of being burnished down. After bending the pins and again burnishing the backings to the facing and cutting edge (see fig. 5), invest (cutting edge uppermost) in thinly mixed plaster and sand. Flow 20-carat solder along the edge uniting the two backings (see fig. 6). After cutting the superfluous gold away, this solder edge can be reduced by the file or corundum wheel to any

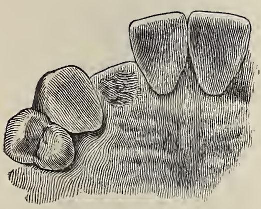


FIG. 1.

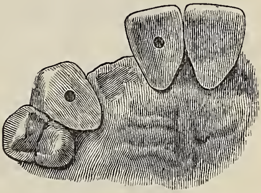


FIG. 2.

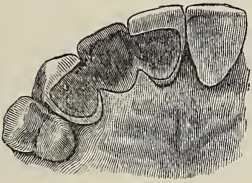


FIG. 3.

desired thickness (see fig. 7). Care must be taken while bevelling the tooth, as of course the thinning lessens the strength of the porcelain and renders it more liable to crack in soldering. This can be avoided by taking care that the bevel angle is not too acute.

Soon after my adoption of this invaluable suggestion, Mr. F. G. C., an amateur singer, who was wearing a single tooth mounted on an entire vulcanite palate, consulted me with a view to my making him a much smaller substitute for the missing incisor, lost from a blow many years previously; the lateral was absent, having never erupted. I explained to him the difficulties such a small substitute as he desired involved, but agreed to make the experiment. I intended making him a pin-bridge after the Litch method, backing the tooth as Mr. Sandusky directs.

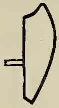


FIG. 4.

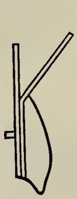


FIG. 5.

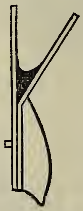


FIG. 6.

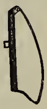


FIG. 7.

I had cut the fine gold backing rather wide, when it struck me as rather absurd to trim this off and be afterwards obliged to solder the side extensions on to the backed tooth (*vide* Evans, *op. cit.*, p. 237). Consequently I made up my mind to see if I could not leave the fine gold backing wide enough to make the side extensions or base plates, as Dr. Litch calls them, and this I found perfectly easy. To be clear, I will recapitulate my method in detail.

(1) Make sure the bite is not a close one, otherwise there will not be sufficient room for the extensions or base plates (see fig. 3). Should this be the case, there is no good attempting a pin-bridge: as all good operators insist, it is of paramount importance in bridge work to select one's cases.

(2) Having made sure that the operation is practicable, take a small *plaster* impression of the teeth involved, cast, dry, and stearine.

(3) Fit a selected pin tooth to model and bevel the cutting edge.

(4) Fit a 22-carat gold back (No. 5 tight) to the tooth, leaving it half an inch too long at the cutting edge, counter-sinking the holes for the pins and remove from the tooth.

(5) Fit and counter-sink a fine gold back (No. 5 easy) to the tooth, leaving wide extensions at the sides and long at cutting edge, burnishing this portion carefully to the bevelled cutting edge; replace 22-carat backing.

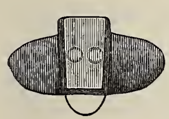


FIG. 8.

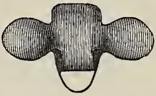


FIG. 9.

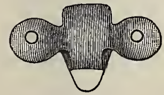


FIG. 10.

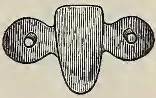


FIG. 11.

(6) Bend pins outwards and solder backings together with 22 carat solder at the cutting edge and file up, leaving a good thickness of gold covering cutting edge.

(7) Burnish extensions to plaster model and trim up with scissors (see fig. 8).

(8) Burnish extensions to mouth and see that bite of tooth is free.

(9) Replace on model without disturbing extensions and melt on to them sufficient of a brittle resinous cement (resin 2 pts., wax 1 pt.) to render them rigid when cooled with ethyl chloride; try again in the mouth to ensure absolute accuracy of adaption and invest and solder with plenty of 20-carat gold solder.

(10) File up, and see that bite is quite free of extensions and tooth. Make the extensions quite thin at the edges, but leave them thick enough in the centre to be absolutely rigid (see fig. 9). Place in the mouth and mark with a sharp excavator the best situation for the pin and corresponding hole in the tooth. It is far preferable, I find, to make the holes in the gold first and then drill through into the teeth

than to (as Dr. Litch advises) make the holes in the teeth and then guess at the corresponding points on the gold extensions.

(11) Having drilled and counter-sunk a hole in each extension (see fig. 10), place the bridge in position in the mouth and drill through into the teeth on either side of the space. The bridge may now be removed from the mouth and the holes in the teeth enlarged so as to each accommodate a headed pin, the head of which has been filed quite flat. A good plan to get these pins is to break up in a vice a Massey's upper central.

(12) It is best to wax the pins into position, try in the mouth and solder one at a time, as it may not be practicable to use two pins. Care should be taken to see that the pins are not too divergent, and should there be any trouble in removing the bridge with one pin fixed, a carefully inserted gold filling must take the place of the other pin.

(13) Apply a thin piece of rubber dam and dry the teeth with S. S. White's new hot-air syringe. The Dental Manufacturing Co. have made for me a stand for heating the carbons and a pair of tongs for handling them when hot. Absolute dryness when fixing is one of the great secrets of durability of crown work. The holes are first carefully filled with cement and then the bridge (see fig. 11) is lined with cement and rapidly and firmly pressed home. Should only one pin have been used, it will be necessary to allow the cement to set and drill out and well undercut the second hole, after which a well condensed solid gold filling should be inserted.

Some operators may prefer gutta-percha to cement. My friend, Mr. Harry Baldwin, has kindly suggested painting the teeth with resin dissolved in chloroform and attaching the bridge with S. S. White's Improved Gutta-Percha. Equal parts of chloroform and oil of eucalyptus is a good solvent for this.

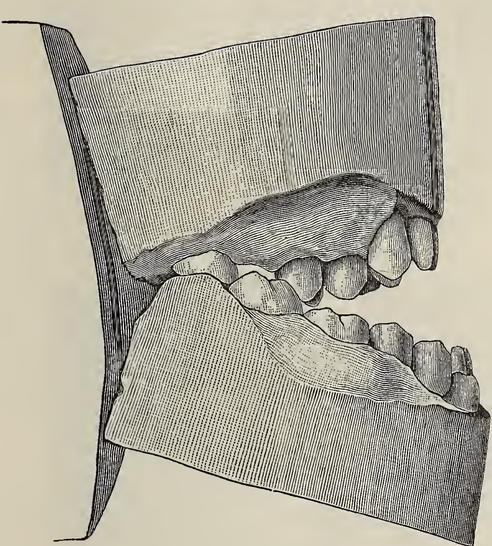
The Preparation of White Gutta Percha.

A pure white gutta percha may, according to Max Stichel (*Stomatological Gazette*), be obtained by dissolving gutta percha in chloroform and then allowing it to stand in a solution of chloride of lime for a week, at the end of which time it should be filtered and exposed to the sun for another week.

A Case of "Open Bite."

By HARRY ROSE, L.D.S.Eng.

The following interesting case of open bite was placed under my care by Mr. Percy Jakins. The patient was nineteen years of age. Her previous history showed that she had been suffering for several years with pain across the forehead and dryness in the throat on awakening. She was very restless at night, and had frequent attacks of indigestion and constipation; she was highly nervous, and of late years had been gradually getting deaf, this being followed with a noise in both ears like the roaring of the sea. The patient also complained of a feeling of heaviness, and presented a distinctly stupid expression.



As the whole of her teeth were functionless, it was decided to remove them all and replace them with artificial substitutes; but in order to ascertain whether it were possible for any of the teeth to be preserved the lower back teeth were removed first. Their removal gave a more extended range of movement to the jaw, and afforded conclusive evidence at the same time that none of the teeth could be utilised. The patient was then, after a week's interval, placed under ether again by Mr. Jakins, and I extracted the whole of her remaining teeth.

After a fortnight's rest impressions were taken of her mouth and a temporary denture inserted, which the patient is getting on with as fairly as could be desired, and she is now able to make her lips meet for the first time.

Legal Intelligence.

Prosecution under the Dentists Act.

HEARD at the St. Columb Petty Session on Tuesday, October 27. Henry O'Neill Barry, residing at Beachfield Avenue, Newquay, was charged with practising as a dentist without being registered in accordance with the Dentists Act, 1878. Mr. H. Wheeler-Higman, of St. Austell, appeared for the prosecution, and Mr. R. Dobell, of Truro, for the defence.

Mr. HIGMAN explained that this Act was one for the protection of the public, and it enacted that no person should practise as a dentist in the United Kingdom without being registered under the Act. No prosecutions had before taken place in Cornwall, but many had taken place in other parts of the kingdom. In many cases the defendants had qualified their descriptions by adding words after "dentist," in one case a defendant had even called his place a "dentorium," but notwithstanding this, convictions had resulted in every case. He would put in a copy of the Dentists' Register, 1896, to show that defendant's name was not registered, and also a photo of his house to show that a brass plate was exhibited describing defendant as a dentist.

Mr. DOBELL admitted that Mr. Barry was not on the register, and that he had described himself as a dentist.

Mr. HIGMAN then read Section 3 of the Act.

Mr. JABEZ JENKINS, of Egloshayle, gave evidence to the effect that he consulted Mr. Barry with reference to the making of a duplicate set of teeth. When he asked defendant if he was Mr. Barry, the dentist, he received an affirmative reply.

Cross-examined: Mr. Barry did not say he was registered. He did not see the Colonial diploma (produced) hung in defendant's operating room.

Mr. WM. RICHARDS, dentist, of St. Austell, said that as the secretary of the Cornwall Branch of the British Dentists' Association,* he had laid the information for the prosecution.

Cross-examined by Mr. DOBELL: You don't know much about diplomas? You are a dentist because you were one before the passing of the Act, aren't you? WITNESS: Yes. Mr. DOBELL: Do you practice at Newquay? WITNESS: Yes, I go there regularly.

Mr. DOBELL: I suppose Mr. Barry was making a little difference in your business, then? WITNESS: He might have done. Mr.

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* This should read Cornwall Dental Association.—ED. *J.B.D.A.*

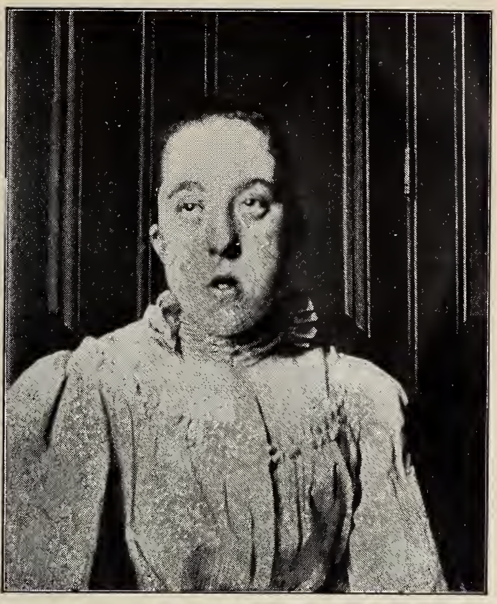

FIG. 1.—Portrait of the patient before removal of the teeth.

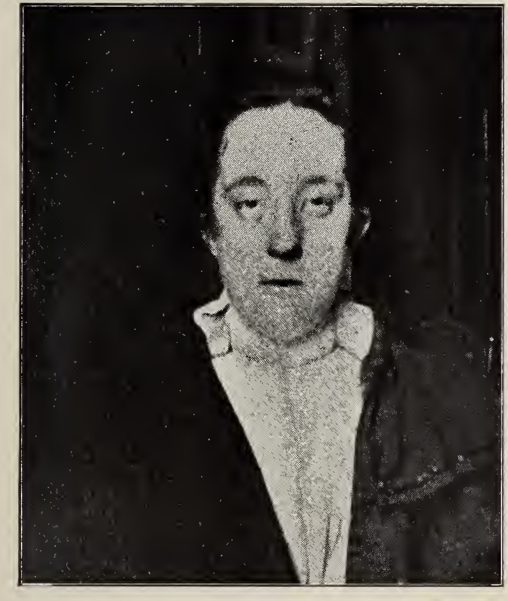

FIG. 2.—Portrait of the patient after removal of the teeth and insertion of dentures.

DOBELL contended that under Section 4 of the Act Mr. Barry, as a person not domiciled in the United Kingdom, and holding a certificate in a British possession (Victoria) had had a perfect right to practice. Mr. HIGMAN objected to the certificate as it was not sealed. THE BENCH upheld this objection saying that anyone could get a form printed and fill it out. It might be a forgery. Mr. DOBELL said that his client could go into the box to prove it. Mr. HIGMAN submitted that in such a case as this the defendant could not give evidence. Mr. DOBELL : Well, if the British Dentists' Association are going to fall back upon such a plea as this, to prevent a man going into the box to explain his own case——Mr. HIGMAN : The British Dentists' Association are doing nothing of the kind. Mr. DOBELL said that if the Bench were willing to adjourn the case for a month, he would put the case to the test which Section 10 of the Act allowed ; he would first submit the certificate which he assured them was granted his client in Victoria to the General Medical Council, and ask them if they would recognise it. If they would not, he would appeal to the Privy Council as to the question of residence.

THE CHAIRMAN : We consider him to be resident in the United Kingdom. Mr. HIGMAN argued that Section 8 of the Act should be read before Section 10. This Section (8) stated that any person not domiciled in the United Kingdom, or who had practised as a dentist in a foreign country or British possession for more than ten years, could apply to the General Medical Council to be registered as a dentist. Mr. Barry was a resident in the United Kingdom ; he had taken a house at Newquay, and was on the rate-book. Then Mr. Barry was quite a young man, not more than twenty-three, and surely he could not have been practising when he was twelve or thirteen years of age. Mr. DOBELL renewed his offer. His client had never tried to deceive anybody, but had always kept the certificate hanging in his operating room. Mr. HIGMAN : He had the word "dentist" outside the door. He should have hung the certificate outside the door.

THE BENCH, after a short consultation, considered that Mr. Barry had not complied with the provisions of the Act, and imposed a fine upon him of £5 and costs.—*Newquay Visitors' Notes and Directory.*

Conviction under the Apothecaries Act.

AT the Southwark County Court, on October 12, before Deputy-Judge Sills, L. Thomasso, 148, Westminster Bridge Road, was sued by the Apothecaries' Society of the City of London for unlawfully practising as an apothecary. The prosecution was undertaken by the Medical Defence Union on behalf of the Wardens of the Society.

Mr. TURNER, barrister, appeared for the Society ; and Mr. G. A. Bonner was counsel for the defendant.

Mr. THOMAS WILLIAM TYRRELL, a clerk, according to a report in the *Times*, acting under instructions, paid a visit to defendant's premises by appointment, and there saw defendant. Tyrrell went into what appeared to be a consulting room, and complained of a cold and feeling generally out of sorts. Thomasso gave him a bottle of medicine (produced), for which he paid 2s. 6d. The defendant desired to see him the following week. Tyrrell accordingly went a second time, and was again examined, on this occasion a stethoscope being used, after which he was given another bottle of medicine, for which he paid 1s. 6d. It was then decided to proceed against the defendant.

THOMASSO, in defence, stated that he was a patent medicine proprietor, and he produced a certificate in Latin from an American university. He had never been registered in England as an apothecary, and denied having acted as one. He had never examined Tyrrell, and did not give him the two bottles of medicine produced.

His HONOUR said he was satisfied that the defendant had acted as an apothecary, and gave judgment for the full penalty of £20.—*British Medical Journal.*

An Action for Recovery of Fees.

AT Bloomsbury County Court, October 23, before His Honour Judge Bacon, Mr. C. A. S. Lewis, dentist, of Keppel Street, Russell Square, W.C., claimed £11 16s. from Mr. Alfred Beyfus, solicitor, and member of the firm of Beyfus and Beyfus, of Lincoln's Inn Fields.

Mr. E. LEWIS THOMAS, who appeared for the plaintiff, said that on September 3, 1894, defendant called on plaintiff with reference to the condition of his mouth. Plaintiff found six teeth missing in each jaw, and told defendant it would be necessary to replace four in each, it not being usual to replace what is known as wisdom teeth. Defendant assented to this, also the cost, £11 11s. The teeth, however, were not fitted till May, 1895.

The account was sent in three times, and no objection raised until July of the present year. The odd 5s. for scaling had been paid into court.

The PLAINTIFF bore out counsel's statement, adding that he had been in practice for twenty-one years.

The DEFENDANT, who appeared in person, said that the teeth hurt him considerably and cut his mouth, and the food accumulated underneath so much that it became impossible to use the teeth at all.

JUDGE BACON : The case is absolutely clear. Here is a man orders teeth in 1894, takes them away in 1895, and keeps them till the end of 1896, and refuses to pay. (To defendant) : You keep a man's two cases of teeth, including 50s. worth of gold or platinum. If an ordinary layman had behaved so—well—but a man of Mr. Beyfus' position—he must have known that he could not keep a man's teeth for the best part of two years and not pay for them. Judgment for plaintiff with costs.—*Daily Mail.*

Reports of Societies and other Meetings.

Odontological Society of Great Britain.

The first meeting of the session was held on the 2nd inst., the President (Mr. Woodhouse) occupying the Chair.

The minutes of the previous meeting having been read and confirmed, the Librarian (Mr. Maggs) reported that, in addition to the usual periodicals, and journals the following books had been received : "Calendar of the Royal College of Surgeons England," 1896 ; "Transactions of the American Dental Association," 1896 ; numbers 11 and 12 "North American Fauna, United States Department of Agriculture," 1896 ; and two copies "La Photomicrographie," by J. Choquet.

Mr. Robert Stephen Fairbank was elected a resident member of the Society.

The President then read his inaugural address.

Having expressed his warm acknowledgments for the honour conferred upon him by his election to the Presidential Chair, he mentioned that his election was coincident with his coming of age as a dental surgeon. The fortieth anniversary which the Society celebrated this year was likely, he said, to be an important one in its history. In the present session they had to face the momentous question of their future domicile. Since its early days the Odontological Society had been housed by the Dental Hospital of London, first in Soho Square, and since 1874 in its present quarters ; but now that the hospital was to be rebuilt some change was inevitable. He would like to see their Society a greater power even than it was in the dental world. Whilst never losing sight of its great ethical and scientific aims, it ought to be so situated that its social character could be enhanced. Whether they might hope to continue their old alliance with the Dental Hospital in more commodious quarters, or would have to trek further away, if possible, to a greater centre of professional life, was an open question. Referring to the fact of the Queen's reign having exceeded in length that of any predecessor on the throne of England, he briefly reviewed the immense advance made during the Victorian era in scientific medicine and surgery, in which he declared the dental branch of the healing art could claim a full share. Although they had such enormous advantages over their predessors in every form of appliance and treatment, there was the sad fact before them, that they had to deal with deteriorating structures, and it was to efficiently grapple with that condition that all their energies and resources were called into play. He had been much struck by the fact that caries could often be regarded as a transitory condition, and even the virulent form, which in young mouths well nigh drove them to despair, to a great extent ceased after puberty, when, if judicious treatment had been adopted, the strengthening forces of nature came to aid the dental surgeon in his apparently hopeless task. The science of bacteriology had shed light on much that before was dark and inexplicable. It had revolutionised surgical treatment, and the dental branch of surgery felt the full force of the wave. Antisepsis and prophylactic treatment based on its investigation had aided them materially, and fortunately that knowledge was not limited to professional circles. The general public were becoming more and more alive to the importance of having the guidance of the dental surgeon from the first dentition. Speaking on the subject of the Röntgen rays, the President said it had occurred to him that possibly their use might influence the dental surgeon's decision when hesitating as to the removal of retained temporary teeth with the hope of permanent successors taking their place, as well as in other ways. The charge of monotony and narrowness had sometimes been levelled against the work of the dental surgeon, but the validity of such a charge entirely depended upon the spirit in which that work was done. There was ample scope for the accurate observer to note facts and form deductions as to the laws of health, heredity, and disease, as applied to their vocation. It was to Societies like their own that the codification of incidents in practice was greatly due, and so a mass of experience was being accumulated for the guidance and benefit of a future generation. Of late years there had been a rapid multiplication of medical Societies of all kinds. The ever-widening field of knowledge accounted for this, and specialists like themselves gained much by the close interchange of ideas thus afforded.

Mr. William Hern read a communication "On a Case of Ankylosis in a Boy."

Mr. Bland Sutton said Mr. Hern asked him to see the boy, and he came to the conclusion that the left half of the jaw was undeveloped, although the right half was fully developed, but they were so firmly ankylosed that the patient could not get his mouth open, and he used to stuff his food in with his fingers, much like a schoolboy would fill a pop-gun. He made an incision down the jaw in order to remove the condyle, and to his astonishment he came on a solid pier of bone as thick as his thumb. He detached the solid pier of bone and cut a piece out half an inch broad completely across it. The ascending ramus of the jaw on the right side was practically represented by a solid pier of bone, half an inch square, firmly ankylosed to the temporal bone. Having cut that piece of bone right through, the patient's jaw was forced open with a powerful pair of forceps, and to his astonishment the whole jaw began to rock, there being a perfectly good condyle on one side. Four or five days after the operation the patient was perfectly happy and could use his jaw. He thought the most reasonable cause for a lateral ankylosis of that sort might possibly be explained by an injury to the temporo-mandibular articulation with the point of forceps at delivery. An injury at the time of birth might go on very slowly, and ultimately induce, in young children, an ankylosis such as had been described.

Mr. ALFRED WOODHOUSE mentioned a somewhat similar case in a lady, a little over 50, who had suffered since she was four years of age.

Mr. ROBBINS mentioned a somewhat peculiar case of retarded eruption of some of the permanent teeth in the upper jaw of a young lady, aged about 20, which he brought before the Society some six years ago. At that time, from the right upper central to the second bicuspid on the left side the jaw was undeveloped, for the reason that, owing to the non-appearance of the permanent, central, lateral, canine, and first bicuspid, the alveolus had remained *in statu quo.* When the case was first brought to him for examination there was a history of constant irritation just in front of the second bicuspid, which, for want of support, was leaning forward. At times a small discharge occurred at that spot; and on probing he distinctly felt the polished cusp of one tooth, but could not be sure as to a second. On operating he found the leaning tooth was the missing first bicuspid, and immediately below was a misplaced canine. A small vulcanite plate was made, and had been worn ever since. Within the last few months he had been again consulted, and, strange to say, two more teeth had appeared exactly in the same spot that the first two were removed from. These proved to be the missing central and lateral. He now found that the missing right canine was ready to make its appearance, and he was hoping it might be trained into position. The somewhat troublesome sneezing and biting habits which had previously afflicted the patient had quite subsided.

He also exhibited a skiagraph of the cheek of a young man in which two pieces of glass were embedded.

Mr. T. CHARTERS WHITE read a communication on "A Method of Infiltrating Dental and Osseous Tissue," in which he pointed out the utility of the process and explained its manipulation. With regard to utility, those workers with the microscope who had been accustomed to mount sections of teeth or bone in Canada balsam must have been often disappointed in finding that in the finished specimen all cavernous and tubular structures had been obliterated, the balsam being absorbed by the dentinal tubuli or the lacunæ of bone. For many years he surmounted that objectionable feature by mounting such tissues after thoroughly saturating them in water and drying their surfaces. It naturally followed that, the internal structures being filled with water, the balsam could not run in. In thinking over the matter it occurred to him that if he could fill those spaces with some coloured medium it would be a more decided evidence of the existence of cavities, did such exist, than could be furnished by the water method. He first thought of using gelatine coloured by some of the red aniline colours, and, although that was partially successful, an objection to its use arose from its solubility, and an imperfect fluidity by which it failed to enter into such minute cavities as the dentinal tubuli. He afterwards tried various materials with no better success, and ultimately adopted the process he was about to describe. In the first place the section should be ground to about one thirty-second of an inch thick, and dehydrated by immersion for five minutes in absolute alcohol, and then for the same time in ether. When thoroughly saturated it should be transferred to a very thin solution of celloidin, about three grains of celloidin to half an ounce of equal parts of absolute alcohol and ether. In making a red mixture, fuchsine must be added to the alcohol first, as the dye would not readily mix with the completed solution. When he first employed the method he used the solution too thick, and experienced considerable difficulty in getting the coloured celloidin solution to run into all the delicate cavernous structures, such as the dentinal tubili were ; but no great difficulty was met with if the air contained in them was replaced by ether first, for the solution readily followed the ether. When the tissue had remained in the solution for a day or two, if deemed sufficiently impregnated, it might be removed and placed on paper to evaporate. Another advantage of that method of infiltration was that the sections were rendered less brittle with their saturation of celloidin, and could be ground to the desired tenuity without much fear of fracture, whilst cavities, normal or abnormal, showed up a brilliant red without their obliteration by balsam running in. Sometimes the balsam became stained by the red, but that did not militate against the efficiency of the process.

Mr. F. J. BENNETT said that the ingenious suggestion Mr. White had brought forward as to colouring with celloidin was one which was new, and one which appeared to be full of promise. He should like to ask Mr. White whose celloidin he used, because it was a very difficult substance to get, especially to get of good quality and pure. With regard to the dentinal tubuli, no doubt the drying of the celloidin and the consequent shrinkage would be of very small consequence, because the amount of celloidin was so very slight in the tubuli that practically no difference would be found on drying. But when they came to larger cavities, especially cavities occupied by blood-vessels—for instance, in the cementum and the larger lacunæ—they should be on their guard, for celloidin shrank, and therefore if they saw an apparently new structure under the microscope it should be remembered that possibly it was due to the celloidin having contracted in drying.

Mr. CHARTERS WHITE said the celloidin he used was Scherin's. It was sold in flakes, and readily soluble. With regard to the lacunæ, they were closed cells, and no coloured celloidin would run into closed cells except they were on the surface. Those embedded deeply in the tissue were not filled at all.

The PRESIDENT thanked Mr. White for his communication and those gentlemen who had brought forward casual communications, and the meeting then adjourned.

Abstracts.

Deformities of the Hard Palate in Degenerates.

By FREDERICK PETERSON, M.D.

THE subject of degeneracy in the human race has for some years been exciting much interest and discussion among scientific men.

Degeneracy may be defined as a marked deviation from the normal original type or standard. We recognise it, as a rule, in its effects upon the intellectual life, in the deviations from the intellectual habits and social conduct which we hold in common with our fellows. To the class of degenerates not only belong many criminals, idiots and insane individuals, but also the great majority of persons whom we call cranks or eccentrics, the people who live among us a sort of original life, with peculiarities of mental habit and conduct, and whom we characterise as feeble-minded, odd, quaint, queer or singular.

The indications of degeneracy are known as stigmata hereditatis, or stigmata of degeneration. They may be defined as anatomical or functional deviations from the normal, which, in themselves, are usually of little importance as regards the existence of an organism, but are characteristic of a marked or latent neuropathic disposition.

While the palate occupies but a small place in the great category of hereditary stigmata of all kinds, it is one of the anatomical group, and this group is for many reasons the one of greatest importance. In this group, too, it occupies a distinctive place as being among the most striking, frequent, and significant of the anomalies. I will not say of the palate what Dr. Amadée Joux said of the ear, "Show me your ear, and I will tell you who you are, whence you came, and where you go;" but I will say: "Show me your palate, and I will probably be able to tell whether you belong to a great class tainted by heredity, comprising many insane, imbecile, feeble-minded, criminal, eccentric, epileptic, hysterical or neurasthenic individuals." Doubtless you are not always brought into contact with the psychic life of the individuals who come to you for treatment; you may not often be consulted as to conditions outside of your own field of work. But at any rate you may frequently do an immense amount of good, when you discover a pathological palate, by calling the attention of a family to an indication of degenerative proclivity in one of its members. If it be a young person, you may be the first to observe a stigma, and the first to direct attention to a peculiarity which may have enormous significance as regards his future bringing up and care. You will recognise the need of examining him for other stigmata—anatomical, physiological, or psychic—and the necessity of a special line of education and development if he prove to be feeble-minded or have a tendency to a psychopathic state, and of throwing about him safeguards against the evolution of eccentric, hysterical, neurasthenic, or other neuropathic conditions.

The Pathological Palate.—In passing to the consideration of the pathological palate, I would premise that I am fully aware of the difficulty of making hard and fast rules for the differentiation of the abnormal from the normal, and of the danger of making too positive statements. I have searched literature very carefully, and find that very little indeed has been written upon the subject, and it is, in a way, making new paths for others to follow and improve upon to bring this matter to your attention. The phrase Gothic palate is, to be sure, frequently mentioned in literature, but only casually. Several papers have been written upon the torus palatinus. I have examined the hard palate in normal and abnormal states for over eleven years. I presume as many as 1,000 insane, 100 criminals, 600 idiots, and 500 or more neuropaths of other kinds would fairly represent the number of pathological conditions from which I have gained some of the expert experience which has led me to present this paper for your consideration, and I mention these facts merely as a justification of my attempt to make a sort of classification of the kinds of pathological palates which should be regarded as stigmata of degeneration. The word Gothic having been so long in use, and the hard palate being much like an arch or roof, I have followed architectural nomenclature in the classification offered.

Pathological Palates.—(*a*) Palate with Gothic arch ; (*b*) palate with horseshoe arch ; (*c*) the dome-shaped palate ; (*d*) the flat-roofed palate ; (*e*) the hip-roofed palate ; (*f*) the asymmetrical palate ; (*g*) the torus palatinus.

As illustrations of these varieties of abnormal palate, I present for examination seventeen casts of the hard palate, mostly selected from among the 450 idiots on Randall's Island. I am under great obligation to Dr. Walker and his assistant, Dr. Turner, for making the moulds and casts in these cases.

The seven varieties named are to be looked upon as types merely. Each type will be found to present variations and combinations with other forms. Thus, the Gothic arch may have a low or high pitch, and be short or long. The horseshoe arch (a familiar one in Moorish architecture) is always easily distinguished, but owing to its conformation a cast cannot well be taken of it to show it in perfect outline. The dome-shaped palate may be high or low, may be combined with asymmetry or torus. The presence of a torus in the Gothic variety is apt to destroy the purely Gothic form, and may cause it to resemble the flat-roofed palate. Under the heading of flat-roofed palate I should include all such palates as are nearly horizontal in outline (of which I have not a good specimen to exhibit), as well as those with inclined roof sides but flattened gable. In the hip-roofed palates we have the sloping sides as usual, but also a marked pitch of the palate roof in front and behind. Occasionally one meets with a palate of this kind with so remarkable a pitch from before backward that it is almost like a Gothic roof turned about, so that the gable runs transversely. Asymmetry in the palate is commonly observed in many of the previously described forms, but occasionally is the only noteworthy peculiarity. It is usual to find asymmetry of the face and skull in cases with an asymmetrical palate.

The torus palatinus (Latin, *torus*, "swelling") was first mentioned by Chassaignac as a medio-palatine exostosis. It is a projecting ridge or swelling along the palatine suture, sometimes in its whole length, sometimes in only a portion of its course. It is always congenital. It varies considerably in its shape and size, so that as many as five or six different species of torus are recognised. It may be wedge-shaped, narrow, broad, very prominent, or irregular. I have said nothing about cleft-palate, for I am not sure that it may be classed among the well-marked stigmata of degeneration. I have found but two or three cleft-palates among the 450 idiots and imbeciles on Randall's Island, while a number of cases of this kind with which I have come in contact in my professional life were very far from being degenerates. However, it would seem that there is great need of a faithful study of a large number of cases of cleft-palate in relation to the question of degeneracy.

The Etiology of the Pathological Palate.—When we come to investigate the causes which lead to the formation of an abnormal palate we meet with much difficulty. Much could be learned, probably, by the examination of large numbers of newly-born children. As far as my own experience goes, the kinds of palate to which I have devoted this paper are always congenital. I am aware that changes are produced in the palate by mouth breathing, and that some specialists in diseases of the nose and throat are inclined to ascribe most palatal deformities of the character above mentioned to this cause, but the evidence is convincing that another origin, and that a prenatal one, must be assigned to these deformities. We must look rather to modifications occurring during fœtal development, during the evolution of the child, modifications brought about by arrests or errors of development, not so much, perhaps, in the palate itself as in the brain, the base of the skull, and the intricate structures that make up the face and nose, because the relative positions and interdependence of these parts is so marked that any alteration in one must in somewise affect the development and configuration of all the others.

As to the ultimate cause of these modifications which give rise to stigmata of every kind, that must be sought in the nervous mechanism which governs heredity. As the evolution of our bodies as well as our minds depends upon the brain and spinal cord and the countless nerve filaments which radiate from them to every tissue, so the nervous system plays the most important part in the influences which have to do with heredity. The nervous co-ordinations must be re-arranged by strong stimuli in order to reproduce the hereditary impulse. This is why traits acquired by us in our individual lifetimes are not apt to be inherited by our descendants. If a person loses an arm, his children are not deprived of that useful member, for the nervous mechanism of development which has for ages produced arms in their proper places, and which is fixed in the powerful hereditary impulse of the race, has not been changed. So in the breed of dogs, whose tails have been cut off for countless generations, not one is born without a tail, because the nervous co-ordinations governing the evolution of the tail bear down with all the hereditary force of the race since its first beginning (when the tail existed, though the animal was legless) to keep it in existence. If in some way we could reach the nervous mechanism which is responsible for the evolution of the tail, we might modify or even prevent its development.

It is, therefore, some derangement of the nervous mechanism governing heredity which brings about deviations from the normal type which gives rise to these anatomical, physiological, and psychic anomalies which we designate as the stigmata of degeneration.

How is the nervous mechanism of heredity deranged? It may be readily and profoundly deranged in a variety of ways, for instance, by poisons. Thus, alcohol disarranges the nervous mechanism of heredity in such a way that the descendants may suffer from drink craving, from idiocy, insanity, epilepsy, hysteria, neurasthenia, from shattered nervous systems, for at least three generations, and in these unfortunates we find along with the marked functional stigmata of degeneration these actual physical deviations from the normal type which we call anatomical stigmata. But idiocy, insanity, epilepsy, and the like are in themselves conditions which disarrange the nervous co-ordinations so profoundly as to affect the hereditary impulse and give rise to anatomical and functional stigmata in the descendants. What is bequeathed to the degenerate child is a fragile and unstable nervous constitution. The evidence of this inherited fragility of the nervous mechanism may present itself as insanity, or it may be epilepsy, or it may be feeble-mindedness, or it may be criminal tendencies, or it may be simple nervousness, or hysteria, or certain kinds of headaches, or possibly only eccentricity. All of these disorders are more or less interchangeable, and are merely proofs of an unstable nervous organisation. Where such conditions do not develop they may still exist in a latent state, and pass as a legacy to another generation. Whether the neuropathic state be manifest or latent we are apt to find anatomical stigmata of degeneration present on careful examination.

Significance of the pathological palate as a stigma of degeneration.—The deformed palate, to my mind, is one of the chief anatomical stigmata of degeneration. It is true that from this single indication it would not be strictly scientific to adjudge an individual a degenerate. Occasionally, perhaps, a case presents itself where this anatomical stigma alone would suffice to insure a diagnosis of this nature, but usually other stigmata co-exist, such as cranial anomalies, deformities of the ear, and the like. The frequency of the pathological palate among marked degenerates, such as insane, idiots and epileptics, has been testified to by many investigators. Thus Talbot reported 43 per cent. of abnormal palates in 1,605 inmates of institutions for the feeble-minded. Ireland makes it nearer 50 per cent. Charon, a later writer than these, found abnormal palates in 10 per cent. of apparently normal people, in 82 per cent. of idiots and feeble-minded, in 76 per cent. of epileptics, in 80 per cent. of cases of insanity in general, in 70 per cent. of the hysterical insane, and in 35 per cent. of cases of general paralysis. Nacke has studied particularly the torus palatinus in 1,449 individuals, normal and psychopathic. He found it present in 23·9 per cent. of psychopathic women (insane, epileptic, idiot and criminal); 32·9 per cent. of epileptic women; 34·4 per cent. of criminal women; 22·7 per cent. of normal women.

The percentages were smaller in men than in women. A narrow torus is more common than a broad one.

Stieda examined 1,500 skulls for the torus from an anthropological point of view. The skulls were of Prussians, Americans, Africans, Frenchmen, Russians, and Asiatics. He decided that it has no anthropological significance, gives no racial distinction.

While the torus is undoubtedly of value as an index of degeneration, particularly where it is well marked, it probably has less importance in this respect than some of the other forms of pathological palate.

In conclusion, I wish to say that in the anomalies of the palate just described we have not only a physical mark of degeneration, but one of the more common of the anatomical stigmata of his condition.—*The International Dental Journal.*

Death from Chloroform given for a Dental Operation.

A DEATH under the influence of chloroform occurred on Saturday, October 31, at the chambers of Mr. William Owen, surgeon-dentist, of Darlington Street, Wolverhampton. The deceased was a Mrs. Isabella Jones, 32, widow. She went to Mr. Owen for the purpose of having some teeth extracted, and it was decided that chloroform should be administered. Mr. M. Nicklin, M.B., surgeon, of Darlington Street, Mrs. Jones's medical adviser, was sent for, and he administered the anæsthetic. While the dental operation was in progress it was observed that the deceased's breathing had become difficult, and efforts were at once made to revive her. These, however, failed, and death occurred within a few minutes.

INQUEST.

The inquest respecting the death was held at the Bloomsbury Tavern, Pool Street, before the Borough Coroner (Mr. Phillips).

The Coroner informed the jury that the case was one that seldom happened. It was one of a young woman going to a dentist's and dying whilst under chloroform.

Arthur Jeavons, merchant's clerk, of Lord Street, said the deceased was his sister, and was the widow of G. Jones, a clerk. She lived on the Penn Road, and generally had had good health. She had complained of indigestion, neuralgia, and of her feet swelling at night.

William Gladstone Owen said he was a qualified dentist, and also on the Register. His qualification was L.D.S.England, and he was in partnership with his uncle, Mr. Richard Owen. The deceased consulted him first on October 29. She had exceedingly bad teeth, only eight sound teeth being in her head. The eight were fit to leave, and the rest, being stumps, were to be removed. She attended on Friday at his surgery and saw his partner, and also attended the following day (Saturday). It was necessary that an operation should be made more lengthy than he could undertake, viz., that of giving gas. Deceased told him she had been under treatment by Mr. Nicklin, surgeon, and said she should like him to attend the operation. The firm witness belonged to engaged Mr. Nicklin, and he attended with his own chloroform. Mr. Nicklin administered it on lint in the usual manner, and the operation was completed, when the doctor drew his attention to the fact that the breathing had stopped. Mrs. Jones had been under chloroform then for a time not exceeding ten minutes. She took the chloroform remarkably well, and the doctor said so at the time. Witness did all in his power to restore her, and worked for two hours. At one time, just after the symptom of collapse, she appeared to be likely to recover. The operation commenced at five minutes past ten o'clock, and they worked until a quarter-past twelve, when Mr. Nicklin said it was useless to do anything further. Witness had been house surgeon at the Birmingham

Dental Hospital, and used to see an average of three operations per day. He had seen thousands of operations. He had had bad cases, but never had had a fatal case before.

Montfort Nicklin said he was an M.B. of London University, an L.R.C.P. of England, and an M.R.C.S., practising in Darlington Street, Wolverhampton. He had attended deceased previous to Saturday last for indigestion, and had given her six or seven bottles of medicine. On Saturday he went to Mr. Owen's surgery, having received a note from Mr. Owen. Witness had administered chloroform for Mr. Owen in about fifty or sixty cases. He had administered chloroform many times, having been house surgeon at the Birmingham General Hospital, and also at another hospital. On this occasion he administered the standard chloroform—Duncan Flockhart—supplied by Mr. Cullwick, chemist, Dudley Street. The deceased was depressed and nervous at the time, and he had been told that when she left home that morning she hoped she would not return again. Witness examined the heart before administering the chloroform, as was usual in such cases, and found nothing that would cause him not to administer chloroform. The heart responded somewhat feebly, and he took extra special care in administering the chloroform. He administered two ounces at the most, and deceased took it very well. Afterwards the pupils dilated, deceased became pale, and he saw symptoms of syncope. Artificial respiration was tried and injections made, and they kept life in the woman for an hour after the first fatal symptoms. Witness had never seen a death under chloroform before.

Mr. C. A. Newnham, surgeon, said that by direction of the coroner he had that day made a *post-mortem* examination of the body. He described, at length, the condition of the body, and said that death arose from a weak heart and distended stomach. The condition of the heart was such that it would give no sign on examination, and no one could detect it during life.

The Coroner: That is very satisfactory to Dr. Nicklin.

Mr. Newnham said he found that the stomach was perfectly empty. If deceased had had food and stimulants before the operation it would have been better.

The Coroner remarked that it was important that that should go forth to the public, for some people believed it best to be put under chloroform on an empty stomach.

Mr. Newnham, in reply to a juryman, said he would have had no hesitation in administering chloroform in the case himself. He was perfectly certain no one could have told of any danger.

The Coroner said that both surgeon and dentist in the case appeared to have had great experience.

The jury returned a verdict that Mrs. Jones died from a weak heart and distended stomach whilst under chloroform.—*Midland Evening News.*

Death from Chloroform given for a Dental Operation.

Mr. J. J. Thorney (borough coroner) held an inquest in Hull respecting the death of Maria Elizabeth Crowther, who died while under the influence of chloroform which had been administered previous to a dental operation being performed.

Mr. George William Crowther, 14, Sharp Street, husband of deceased, gave evidence of identification. Her age was 25 years. Her teeth were so bad that she could not eat, and it was therefore determined to have them removed. Witness arranged with Mr. Hart, dentist, to take them out and fit in a new set. He and his wife saw Mr. Wyllie, surgeon, on Saturday, and arranged that he was to attend at Mr. Hart's.

Mr. Wyllie said he attended the deceased in her confinement about eleven months ago. He had not noticed any weakness of the heart. He attended at deceased's house with Mr. Hart for the purpose of administering chloroform, preliminary to Mr. Hart extracting her teeth. Mrs. Crowther seemed in the best of health, and they commenced about three o'clock. Deceased went readily under its influence, and became fully influenced in about five minutes. Mr. Hart then commenced to extract the teeth, and there appeared to be no difficulty in the extraction. Witness renewed the chloroform from time to time, because he found consciousness of pain was returning. He renewed the dose perhaps three times, using about a quarter of an ounce during the whole time. Everything seemed to go on right. On one occasion Mr. Hart removed the gag to examine the mouth, and he saw that six teeth were remaining. He closely examined the patient then, and she was going on all right. Her breathing was good. The operation was finished about twenty or twenty-five minutes from the commencement. The patient was on a couch in the kitchen. When Mr. Hart removed his hand from the mouth witness saw that the breathing had stopped, and the lips lost their colour. He then began artificial respiration, and continued that for about two hours. She gave two slight moans when he began, but showed no signs of life afterwards. He sent for Mr. Aikman some time after. He was not quite sure she was dead. He kept on hoping. He heard the heart beating at the end of two hours from commencing artificial respiration. The chloroform had paralysed the lungs and caused asphyxia. He had administered chloroform more than 1,000 times without any mishap. The dentist's operations no doubt interfered with the breathing.

Mr. Aikman, surgeon, said he saw deceased about five o'clock on Tuesday night. It was difficult to say if she were alive. Mr. Wyllie was still carrying on artificial respiration. Various methods were tried to restore consciousness. Witness had made a *post-mortem* examination of the body, which was well nourished and free from disease. The heart was perfectly sound. Death was due to asphyxia, caused by chloroform. He thought the operation would interfere with breathing, apart from the chloroform.

The jury returned a verdict "That deceased died from asphyxia, caused by the use of chloroform, administered to her for the purpose of extracting her teeth."

Calendar of the Royal College of Surgeons of England.

THE annual Calendar which has just been published by the Council of the College shows that the licentiates in dental surgery now number 1092.

The board of examiners in dental surgery have held two meetings for the examination of 120 candidates, 87 of whom passed and 33 were referred, the fees paid by candidates amounting to £913 10s., the board receiving £495 12s.

With regard to the finances of the College it appears that the income from all sources amounted to £27,833 12s. 5d., the largest item being derived from the fees paid by candidates for the diplomas of the College, viz., £19,188 7s. 3d., the next largest being from dividends on the Erasmus Wilson bequest, £4845 7s. 8d.; rents from chambers adjoining the College produce £750; investments, £745 6s.; hire of rooms, sale of questions, &c., at Examination Hall, £603 4s. 11d.; incidental receipts at College, £28 17s. 9d.; receipts from trust funds, £278 6s. 8d.; dividend from sinking fund for Savoy Estate, £4 4s. 8d.; sale of stock (Walker Fund), £38; fees retained for candidates, £435 15s.; expenses repayable by Metropolitan Asylums Board at Midsummer Day, 1895, £186 5s. 9d.; balance at Midsummer Day, including half Goldsmiths' grant, £729 16s. 9d.

The expenses for the year amount to £26,347 10s. (leaving a balance at the banker's, including half Goldsmiths' Grant, £400, of £1486 2s. 5d.), the largest item being (as in the receipts) in connection with the examinations — examiners' fees, £8832 12s.; half expenses of Examination Hall for the purposes of examinations, £4400 0s. 5d. (this amount includes rates, taxes, rent, and insurance, which absorb the no small sum of £2162 18s.); expenses of Fellowship and Dental Examination, £338 15s. 1d. Half expenses for the Scientific Laboratories on the Embankment amount to £830 8s. 7d. At the College rates, taxes, and insurance amount to £1778 2s. 3d.; extraordinary expenses, £596 11s. 4d.; alterations and repairs, £336 15s. 5d.; fees to Council, £252; salaries, wages, and pensions in the three departments (Museum, Library, and College), £4732 9s. 7d.; lectures, catalogue, specimens, &c., for museum, £621 0s. 11d.; purchase of books, &c., for library, £722 14s. 7d.; trust funds, £255 16s.; purchase of stock, £608 6s. 4d.; fees returned to candidates, £394 15s.; Metropolitan Asylums Board (re-payable), £282 0s. 6d.; miscellaneous items, *i.e.*, fuel, light, printing, stationery, stamps, &c., £1265 2s. 3d.; disbursement of Goldsmiths' Research Grant, £100.

Reviews and Notices of Books.

EVERYBODY'S MEDICAL GUIDE: A Handbook of Reliable Medical Information and Advice. By M.D. (Lond.). London: Saxon & Co.

The intention of the author of this little work is to supply medical information to the public upon subjects with which it is well they should be acquainted. It is not his intention that the book should take the place of a Physician, whose advise as to diagnosis, treatment, and condition is always to be preferred and should be obtained and relied upon, for as the author remarks, "No book of directions, however large, can compare with the skill and knowledge acquired by the Physician in the actual practice of his profession, and every case is likely to have special features requiring personal study."

We note with satisfaction the remarks made upon the subjects connected with our own special branch of the healing art.

GUIDE TO THE EXAMINATION IN PRACTICAL CHEMISTRY FOR THE CONJOINT BOARD. By Percy A. E. Richards, F.I.C., F.C.S. London: Baillière, Tindall & Cox, King William Street, Strand.

This is in every respect a most compact and reliable little book, and contains all the information that is necessary for the practical chemistry of the Conjoint Board. The subject matter is condensed into fifty-seven pages, and is dealt with under the following headings:—

(1) Special tests for the metals; the acids; and the neutral organic substances. (2) Notes on the examination of a simple salt. (3) Notes on salts offering special difficulties and the insoluble phosphates, oxalates and tartrates. (4) Preliminary examination of a simple salt. (5) Separation table. (6) Preparations. (7) List of soluble and insoluble substances. (8) Equatines.

To the student preparing for the practical chemistry Conjoint Board, this book will be found invaluable.

New Inventions, &c.

Euthymol in Dental Practice.

MESSRS. PARKE, DAVIS & Co., of 21, North Audley Street, London, W., have forwarded to us some preparations containing euthymol, and a trial of them convinces us that they will be found useful in practice. Euthymol is composed of oil of eucalyptus, oil of gaultheria, fluid extract of indigo, boric acid, menthol, and thymol. Euthymol makes a pleasant and efficient mouth wash, an agreeable tooth paste, and in the form of lozenges a most useful preparation in cases of offensive odour of the breath.

Miscellanea.

Scottish Branch.

A demonstration meeting will be held at the Dental Hospital, St. Vincent Place, Glasgow, on Saturday, November 28, 1896, at 2.30 p.m. Dr. Williamson (Aberdeen), Mr. J. A. Biggs, Mr. Taylor, Mr. James McCash, Mr. W. Dall (Glasgow), and Mr. T. A. Macintosh (Edinburgh), have promised demonstrations. Details will be sent to members later.

Anti-Sialogogues in Dentistry.

In certain operations where the use of the rubber dam is impracticable, anti-sialogogues should prove useful. Dental literature upon this question is very scanty, due as much as anything to the fact that anti-sialogogues are seldom used by the large majority of practitioners. A very interesting communication on this subject was published some few years back in the *British Journal of Dental Science*, by F. Lonnon, the author enumerating several interesting and successful experiments he had made. In a recent issue of *Items of Interest*, Dr. H. O. Logue cites a case where in the treatment of a third lower molar he was unable to control the excessive flow of saliva by ordinary measures. He then prescribed sulphate of atropin ($\frac{1}{120}$ grain) to be taken three-quarters of an hour before being operated upon, with the result that the mouth was very dry, although not uncomfortably so. The case is interesting as an example of the use of anti-sialogogues, and we think that the whole question deserves more attention than it has hitherto received.

Ulcerating Membranous Stomatitis, Due to the Ingestion of Antipyrin.

At a Meeting of the Medical Society of the Hospital of Paris, held October 16, an interesting case of ulcerating membranous stomatitis due to the ingestion of antipyrin was brought forward by Dr. Dalchi. A man, aged twenty-six, whenever he took antipyrin, suffered from painful ulceration of the tongue, lips and cheeks, as well as marked injection of the conjunctiva with discharge from the nose. The urine contained no albumen. These ill-effects were probably connected with the development of a wisdom-tooth on the right side, judging from the fact that he had formerly frequently taken antipyrin without the least inconvenience. Dr. Dalchi remarked that genuine ulcerative stomatitis was of very rare occurrence after the administration of antipyrin. As a rule buccal complications were limited to swelling of the lips, tongue, and throat, associated with tumefaction of the upper air-passages.

Such ill-effects have been attributed to permanent or ephemeral renal inadequacy, which, however, frequently does not exist. In such cases it has been suggested that the administration of antipyrin is followed by decrease in the diuresis, so marked that the kidney becomes partly choked.

The peculiar intolerance of certain non-albuminuric subjects to antipyrin was in his opinion explained on the assumption of nervous disturbances or a coincident affection.

Deaths from Chloroform given for a Dental Operation.

Once again our columns contain accounts of deaths from chloroform given for dental operations. One would have thought that the number of deaths recorded during the last few years, together with the views expressed on the subject by the first anæsthetists of the day, would have been sufficient to deter the dental practitioner from allowing his patient to incur the risks of chloroform administration. To some, however, warnings seem of no avail, and so from time to time lives are lost which one cannot help feeling would have been spared if chloroform had given place to either ether or nitrous oxide. In the deaths which have recently occurred it would appear that a large number of teeth were removed at the one sitting, and from the evidence of the medical man in one case, the dental operation no doubt interfered with the patient's breathing. We have no desire to criticise the cases, and only trust that they may act as a fresh warning to those who still persist in administering chloroform for dental operations.

Lucium, a New Element.

We note in the *Pharmaceutical Journal* that a new element, named "Lucium," has been discovered by P. Barrière. It is proposed to use this supposed new element for the production of an incandescent gas-light. According to Schützenberger, Cleve, Fresenius, and Lecoq de Boisbaudran, lucium dissolves in sulphuric, nitric and acetic acids, forming white or slightly rose-tinted salts, all of which are soluble in water, forming limpid, colourless solutions. These salts do not form insoluble double salts with sodium sulphate, as do the salts of cerium, lanthanum, and didymium, nor with potassium sulphate, as is the case with thorium and zirconium. Sodium thiosulphate precipitates lucium chloride but not yttrium, ytterbium, or erbium, whilst lucium differs from glucinum by its salts being precipitable by oxalic acid. The atomic weight of lucium is calculated as = 104, and its spectral rays are special, only approximating slightly to those of erbium.

Cataphoresis.

In a communication to the *International Dental Journal*, Drs. Bronn and Adelburg record cases where blisters developed under the rings of the fingers which came in contact with the negative electrode. The point is an interesting one, and it would be well, when using cataphoresis, to remove the rings from the fingers of the hand used to hold the negative electrode.

The Jury and "Dr." Ferdinand.

Slowly but surely the public are becoming enlightened of the evils to which they expose themselves when trusting in the advice of the medical or dental quack. A fresh proof of the fact that the tide is flowing steadily if slowly in this direction is given in the rider which the jury added to their verdict respecting the death of Sophia Halliday, who had been attended by the "Dr." Ferdinand, a so-called cancer curer. It ran as follows:—

"We agree that John Ferdinand's treatment of the deceased was of a bad and reckless nature, but we do not consider the evidence sufficient to prove him guilty of manslaughter. The jury, in regretfully recording this verdict, desire to earnestly direct the attention of the authorities to the impunity with which persons of apparently no education or medical skill can, by means of extensive advertising, promise cures of incurable diseases and thus defraud the working classes, who have no facilities for investigating their qualifications, of large sums of money, and probably in some cases hasten death; and the jury recommend most strongly that there should be some legislation giving the police power to interfere with such practices. The jury desire to add an appeal to the coroner to direct the attention of the police to the wilful perjury which John Ferdinand has committed in this court, and it is the jury's opinion that he has been guilty of obtaining money under false pretences."

Ferdinand has been arrested for perjury, and we trust that the recommendation of the jury will be acted upon by the authorities and the public ridded of such men.

The Relations of the Qualified Medical Man and the Unqualified Dentist.

The following letter to the Editor of the *Lancet* and the reply thereto is of interest from an ethical point of view:—

To the Editors of the *Lancet*.

SIRS,—(1) Is it in accordance with professional etiquette for a qualified practitioner to administer an anæsthetic for an unqualified and unregistered man practising as a dentist and advertising with large handbills on every available space? (2) Would the Medical Council regard this as infamous conduct? (3) Is it a valid excuse for a practitioner to plead his ignorance of the man being unqualified? (4) A qualified dentist is absent from home owing to accidental illness and leaves his practice in the hands of an assistant who is unqualified, but is believed to have passed his preliminary—should he not be treated in the same way? (5) Is not the dentist to blame for leaving a man in charge whom the patients naturally imagine qualified and even practitioners who administer anæsthetics for him plead their ignorance of his being unqualified?

I am, Sirs,

Yours faithfully,

October 5, 1896. M.R.C.S.

(1) No. (2) Probably; we cannot answer for certain. More convictions fail to be secured before the Council from the ineffective and unpractical way in which the complaint is made than because the sinner meets with sympathy. (3) If he is truly ignorant he cannot be blamed. (4) It seems to us to make no difference whether the unqualified man is acting avowedly for himself or for an employer, if he is acting independently of that employer, and free from all supervision. (5) This question appears to refer to some special circumstances, and we must be excused giving an answer whilst in ignorance of those circumstances. It is difficult to see how the ignorance of the patients is to be proved, or the ignorance of the medical men disproved.—Ed. *L.*

Society of Anæsthetists.

The fourth annual meeting of this Society was held on October 15th at Limmer's Hotel, Mr. G. Hewlett Bailey, President, being in the chair. The following officers were elected for the ensuing year:—President, Mr. G. Hewlett Bailey; Treasurer, Dr. Dudley W. Buxton; Members of Council, Mr. Walter Tyrrell, Mr. H. F. Lancaster, and Dr. Sydney Short (Birmingham); Secretaries, Mr. C. Carter Braine and Mr. E. A. Starling (Tunbridge Wells); Auditors, Mr. Theodore G. Burns and Mr. Alexander Wilson (Manchester). The members and their friends to the number of sixty-four afterwards dined together.

Dental Association of Nova Scotia.

The Sixth Annual Meeting of the Dental Association of Nova Scotia was held in New Glasgow, N.S., on August 26 and 27. Dr. Blackstone, of Manchester, N.H., and Dr. Belyea, of Brookline, Mass., held clinics, the former illustrating the possibilities of certain kinds of gold cylinders in contour work; the latter, on quick setting of Logan and Richmond crowns. Mr. Towne, of the S. S. White Dental Manufacturing Company, also gave illustrations of some interesting phenomena in hypnotism. Dr. Webster, of Pictou, and Dr. G. K. Thomson, of Yarmouth, also read papers.

Excursions to the Albion Coal Mines, Trenton Steel Works, and moonlight sail to Pictou through a most picturesque section of Nova Scotia, made up part of the programme.

The meeting will be held next year in Wolfville, the centre of Evangeline's Land in "Old Acadia."

Liverpool District Odontological Society.

The syllabus of papers for the ensuing session is as follows:—November 17, "Pain," R. Edwards, M.R.C.S., L.D.S.E.; January 15, "A Lantern Demonstration on Modern and Ancient Inlays; the Reparation of Fractured Teeth with Porcelain, and the Inlaying of Roots with Gum-coloured Porcelain," W. Dall (Glasgow); February 16, "Electricity and its Uses in Dentistry," J. S. Dickin, L.D.S.I.; March 16, "Practical Points of Relationship between Medicine and Dentistry," J. E. Gemmell, M.B., C.M. April 20, Annual General Meeting.

According to the *Dominion Dental Journal*, Wood's fusible metal is composed of bismuth 15 parts, lead 8, tin 4, cadmium 3.

Charing Cross Hospital Students' Club Dinner.

On Friday, October 30, at the Holborn Restaurant, the Students' Club of the Charing Cross Hospital held its annual dinner, when a company numbering close on 250 were present. This splendid gathering was due, in a great measure, to the fact that many were anxious to welcome home once again to his old school their former friend and teacher, James Cantlie. The dinner was a great success, and that the chairman's popularity has not been dimmed by his absence of nearly ten years was clearly shown by the magnificent reception which awaited his rising to propose the toast of the past and present students of the hospital. In a bright, clever and telling speech Mr. Cantlie showed that he had lost none of the qualities which made him such a splendid teacher, and one could not help feeling that his inclusion in the staff of the school has been a wise step on the part of the committee.

Dental Hospital of London Past and Present Students' Dinner.

The annual dinner of the past and present students of the Dental Hospital of London will be held at the Hotel Métropole, on Saturday, December 5. Mr. R. H. Woodhouse will occupy the chair.

Faculty of Physicians and Surgeons of Glasgow.

At the sittings of the Dental Board in October the following candidates passed the first examination for the dental licence:

William J. Crookes (Liverpool); Hugh John Miller (Glasgow). The following passed the final examination, and were admitted licentiates in dental surgery: Henry Adams (Glasgow); Oswald Armer (Bethesda, N. Wales); Bertram Henry Davis (Greenock); David Dunlop (Irvine); Robert Smith Grant (Glasgow); John William Vaughan (Birmingham); John Barnes Watson (Glasgow).

Mr. Bryant, late President of the Royal College of Surgeons of England, has been appointed surgeon-extraordinary to Her Majesty the Queen, in succession to the late Sir John E. Erichsen.

Odonto-Chirurgical Society of Scotland.

The First General Meeting of Session 1896-97 of this Society was held on Thursday, November 12, at 7.30 p.m., Mr. J. Stewart Durward, President, in the Chair. Mr. A. R. Maclean, L.D.S. (Edinburgh), and Mr. J. Morris Stewart, L.D.S. (Edinburgh), were nominated as members of the Society. The President related "The Story of a Re-planted Tooth," and Mr. Amoore made some "Remarks on an ancient Latin inscription, referring, presumably, to artificial teeth." Mr. Macleod exhibited "A bifurcated lower canine."

Odontological Society of Great Britain.

The next ordinary meeting will be held on Monday, December 5, when a paper on "Open Bite" (illustrated by lantern slides) will be read by Mr. J. F. Colyer.

Books Received.

THE INTERNATIONAL JOURNAL OF MICROSCOPY AND NATURAL SCIENCE, The Journal of the Postal Microscopical Society, third series, vol. vi., part 32.

LA PHOTOMICROGRAPHIE HISTOLOGIQUE ET BACTÉRIOLOGIQUE, par J. Choquet. *Paris:* Charles Mendel, Editeur, 118 et 118 bis, rue d'Assas, 1897; tous droits réservés.

GUIDE TO THE EXAMINATION IN PRACTICAL CHEMISTRY FOR THE CONJOINT BOARD, by Percy A. E. Richards, F.I.C., F.C.S. *London:* Baillière, Tindall & Cox.

Everybody's Medical Guide: a Handbook of Reliable Medical Information and Advice, by M.D.(Lond.). *London:* Saxon & Co.

Dental Materia Medica, Pharmacology and Therapeutics, by Charles W. Glassington, M.R.C.S., L.D.S.Edin. *London:* J. and A. Churchill, 7, Great Marlborough Street, 1896.

The Birmingham Medical Review, The Dental Record, The Dominion Dental Journal, Items of Interest, Welch's Monthly, Newquay Visitors' Notes and Directory, Le Progrès Dentaire, Deutsche Monatsschrift für Zahnheilkunde, The Dental Review, The Dental Register, The Dental Digest, Pediatrics, The Australasian Medical Gazette, Skandinaviska Tandläkareföreningens Tidskrift, La Odontologia, The Pennsylvania School Journal, Revue Odontologique, Contribution a l'Etude de l'Implantation des Dents, Magyar Fogászati Szemle, The International Dental Journal, Guy's Hospital Gazette, The Medical Press and Circular, The Dental Cosmos, The Medical Review, The Chemist and Druggist, The Pharmaceutical Journal, The British Journal of Dental Science, The Ohio Dental Journal.

Letters and other Communications received from :—

The Secretary of the Faculty of Physicians and Surgeons, Glasgow; Ernest Parsons; M. J. Choquet; Ernst F. B. Beyer; Wm. Richards. Dr. A. Burne; T. A. Goard; I. Renshaw; F. V. Richardson.

Appointments.

Ernest Parsons, L.D.S.Eng., to be Dental Surgeon to the Metropolitan Hospital, *vice* Percy L. Webster, L.R.C.P., M.R.C.S., L.D.S.Eng., resigned.

W. B. Tolputt, L.D.S., to be Dental Surgeon to the children at Eccleshall Workhouse Schools.

Note.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL

OF THE

BRITISH DENTAL ASSOCIATION

A

MONTHLY REVIEW OF DENTAL SURGERY.

No. 12. DECEMBER 15, 1896. Vol. XVII.

The Report of the General Medical Council.

THE proceedings of the General Medical Council are always interesting reading, but we are bound to confess the chronicle of their most recent meeting affords the reader more profitable food for reflection than is usually contained even in their records. There is some interesting legal matter which, being still *sub judice*, is naturally unripe for comment. There is a pregnant, if brief, discussion, in the course of which Mr. R. W. Turner, representing the British Dental Association, ever vigilant in closing the loopholes of escape from the Dental Act of 1878, points out that it will not do for a mechanical assistant who is unregistered to creep into the surgery and "run" the practice, and that his registered employer would be guilty of covering in such a case. When the Council, some two or three years ago, decided on illegality of covering, we pointed out that, as in the case of the edict against covering in the medical profession, it would be some time before the Council adopted extreme measures to enforce its decision against offenders. This view has been verified by the action of the Council in the case brought before it by our Business Committee. Our Hon. Secretary's view of the case has been sustained, but the offender—as in parallel medical cases decided this Session—has, on promise of better behaviour, been let off with an admonition. It must not, however, be inferred from this that the Association will relax its efforts against this insidious method of evading the Dental Act, neither should the Council be looked upon as condoning the offences, for assuredly its continuance will not be able to claim the extenuating circumstances hitherto so generously acted on to the advantage of coverers. Then there are anonymous letters, apparently none too pleasant reading (and whose authors seem to be but flimsily disguised), which were discussed instead of being consigned in silence to the fire, as all anonymous letters should be.

But to us as dentists, the one matter of overpowering interest is the report of the Inspector of Dental Examinations, which has been presented to the Dental Education and Examination Committee, and has been commented upon in turn by the various licensing bodies. The Report will commend itself to almost all who read it as exhaustive, exceptionally able, and thoroughly fair and impartial. It will also be seen that the examinations in the United Kingdom are so thorough and searching as to leave little to be desired; a little more sternness in some places, a surer method of marking, freeing the examiner from possible sources of bias, in others, and a few improvements in detail, seem to be the sum of the Inspector's suggestions, and we cannot hesitate to endorse them *in toto*. When the Inspector presumed to differ from the Glasgow Council, that body naturally differed from the Inspector; but no doubt the most logical arguments will prevail in the end, as is usually the case. The Irish College has again been urged to desist from admitting candidates to examination without a curriculum, and upon easy terms as regards the severity of the test. This advice the Irish College practically rejects, and we think the sister colleges will unanimously regret this refusal—nay, more, we cannot but think that the Irish College itself will ere long reconsider its decision upon this vexed point.

One unkindly act must be charged to the account of the Inspector which will never be forgiven him by those who love to regale their juniors with veracious accounts of their own experiences under the "ordeal by tables." Gone are the pleasant stories for ever; never again can we tell our children or our friends how we had answered for an hour by Shrewsbury clock without a single mistake, when the examiner, suddenly forgetting some recent German researches with which we were of course familiar, doomed our overcrowded brains to six months' undeserved hard labour. The personal spite which most examiners have been supposed to entertain against most referred candidates; the ruthless rage to which the awful tyrants incessantly give way on hearing a slip of the tongue; the summary punishment of that flippant answer (so unexpected from the quivering, pale lips)—all are exploded fictions. "It is a rare occurrence for such candidates to have done very well in some subjects and very badly in others. The vast majority are insipidly bad all round." Neither can we find among the questions noted down the cunningly devised obscurities and irrelevancies, the position of the pelvic contents, the embryological wonders that we thought always fell to the lot of a rejected student; the questions are mildness itself, and the only milder thing seems to be the examiners who put them.

One consolation remains for the students and it is this, that the long reign of immunity from retribution which the race of examiners has so far enjoyed is at last at an end—they have their Inspector; neither is his bed entirely of roses, for where he says aught that is not praise he is roundly taken to task by the licensing bodies, and while the rejected candidate, smarting from his wrongs, is wreaking them in examination form upon his younger brethren, we in our modest way are criticising the critics. And so *ad infinitum*, we can have no doubt that the cause of dental education and examination has benefited greatly by the painstaking and impartial report of the Inspector. Whether the proposed sub-division of the examinations will work well remains to be seen; some of us who have passed their lives in teaching may fancy that "one small head" might be expected to carry all its professional knowledge at the same time, but in this, as in all things, experience will show which plan is best.

The cases of Bush and Merrill also engaged the attention of the Council, but as decisions on both these were deferred, we prefer not to express any opinion at present on the questions raised.

The Blood Pressure as a Factor in the Eruption of Teeth.

Mr. Constant appears to have read our article as a criticism hostile to his theory, whereas it was in fact a full recognition that he had pointed out what may be a real factor, hitherto overlooked. Theories as to the operation of a complex set of causes in the organism are not to be accepted offhand, nor without much criticism, and whether blood pressure acts directly, or through the medium of a state of tension (or distension, if he prefers it) largely induced by blood pressure, to him would remain the credit of pointing it out. Without entering into a detailed discussion of the points he raises, we may point out that the blood pressure in the human carotid is from 150 to 200 mm. of mercury, and that it falls very rapidly as arteries become small, whilst in the capillaries and the smaller veins it is very slight—at least, such is the teaching of Foster's "Text-Book of Physiology." So the rendering of the superficial gum bloodless does not imply any very considerable pressure.

Instances might easily be adduced of teeth and other organs undergoing changes of direction and migrations which can hardly be attributed to blood pressure, and it is surprising that Mr. Constant should think that he is reproached for leaving other considerations out in his paper, when the article in question said expressly that he did wisely in so doing, so as not to confuse his main issue.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

Representative Board.

A MEETING of the Representative Board was held on Saturday, December 5, at 40, Leicester Square. Present:—Mr. J. Howard Mummery in the chair; Messrs. J. Ackery, F. Canton, Storer Bennett, W. H. Coffin, W. Hern, Lawrence Read, L. Matheson, W. B. Paterson, J. Smith Turner, S. Spokes, W. H. Woodruff and Dr. Walker (London); J. C. Storey (Hull); T. Genge (Bristol); R. P. Lennox, W. A. Rhodes and G. Cunningham (Cambridge); J. H. Redman and F. V. Richardson (Brighton); J. T. Browne-Mason and H. B. Mason (Exeter); A. T. Hilder and F. E. Huxley (Birmingham); T. Gaddes (Harrogate); I. Renshaw (Rochdale); C. Rees Price (Glasgow); F. Harrison (Sheffield); W. E. Harding (Shrewsbury).

The minutes of the last meeting were read and signed.

The PRESIDENT called upon the new Treasurer (Mr. W. Hern) for his report.

Mr. Hern, who was cordially received, reported that the balance at the bank on the current account was £341 3s. 1d.; 120 members were in arrear with their subscriptions for one year and 26 for two years. He proposed the re-election of Mr. J. W. Butcher, chartered accountant, as Public Auditor of the Association.

Mr. Woodruff seconded, and the motion was carried.

The following gentlemen were elected members of the Business Committee, viz.: Messrs. W. E. Harding, W. H. Breward Neale and W. H. Woodruff.

Messrs. Hopewell Smith, Lawrence Read, W. H. Woodruff, J. Ackery, L. Matheson and Storer Bennett were elected members of the Journal and Finance Committee.

Messrs. W. H. Coffin and J. H. Redman acted as scrutineers at the ballot.

The motion of the Western Counties Branch, referred back to the Board by the Annual General Meeting, viz., "That the Representative Board of the British Dental Association be invited to encourage and assist in the formation of local centres for the purpose of more effectually carrying out the provisions of the Dentists Act," was next considered.

Mr. Browne-Mason explained the condition of affairs which had led the Western Counties Branch to formulate the motion at its Cardiff meeting. He was of opinion that the question had not been fully considered by the branch, and the motion could not, therefore, be taken to represent the general feeling of the members.

Mr. H. B. Mason said he was present at the Branch meeting at Cardiff when the motion was somewhat hurriedly brought forward and received less than half the votes of the members in the room. He agreed with the previous speaker.

Mr. Smith Turner proposed and Mr. Browne-Mason seconded the following Resolution, which was carried, viz.:—"That as the law provides that prosecutions may be undertaken by private individuals, the Representative Board cannot go beyond its functions in urging either private individuals or local associations to act as prosecutors. The Representative Board is, however, anxious to impress upon all members of the British Dental Association that the President of the Representative Board and the Hon. Secretary of the Association are always ready to give every information on any case brought before them, such as the advice of the legal advisers of the Association may direct."

Mr. Rees Price proposed that a copy of the Resolution be sent to the Western Counties Branch.

The Hon. Secretary detailed the dental business transacted by the General Medical Council at its recent November Session. In mentioning the case of C. H. Sanders, he said that it was the first case of alleged "covering" the Association had thought fit to present to the notice of the Council. The facts were before the Council last year, but the case had been postponed ; time had thus been afforded Sanders to alter the management of his practices in Aldershot, Exeter and Okehampton, and Sanders had forwarded to the Council, through his solicitors, a declaration, which stated that in future no unqualified persons would be allowed to treat his patients.

The Medical Council now decided :—" That having further considered the charge made against Clement Henry Sanders, the Council does not adjudge him guilty of infamous conduct in a professional respect." The Hon. Secretary instanced the cases of several medical men charged with "covering," in each of which the Council gave a similar decision to that in the case of Sanders. He assumed, therefore, that it was a question of first offenders in the minds of the members of the Council which led to the display of such leniency.

The following Resolution of the Southern Counties Branch was next considered, viz. :—" That the Representative Board be respectfully requested to take into consideration the action of medical men in giving anæsthetics for unregistered and advertising dental practitioners, and to take such steps as they may deem necessary."

Mr. REDMAN, as President of the Southern Counties Branch, said that he thought the time had come for a reconsideration of the question. A similar resolution was before the Board in July, 1894, but the Board decided then to leave the matter in the hands of local dentists or Dental Societies to bring such pressure, as they were able, upon the medical men in their districts. He thought it would be better if the Board, acting for the whole Association, would take the matter in hand, for local centres were open to the insinuation of jealousy. Cases had been brought to the notice of his Branch in which medical men gave anæsthetics, met in consultation, and even recommended unregistered persons practising dentistry who were notorious for what he would call disgraceful advertising. He hoped the Board would decide to take the matter up, and he moved accordingly.

Mr. RICHARDSON seconded.

The HON. SECRETARY read a letter from Mr. MacLeod, President of the Scottish Branch, which stated that the Scottish Branch viewed the question as one more fitted for the Branches to move in, than for the Board or the Association as a whole ; and further that the question of "advertising dentists" should not be mixed up in any way with that of "unregistered dental practitioners," if any approach to the Medical Faculty was decided upon.

Mr. REES PRICE wished to know whether the Southern Counties Branch meant by "advertising dental practitioners," registered or unregistered men ?

Mr. REDMAN : Both !

Mr. SMITH TURNER said that personally he felt no difficulty in dealing with the question of a medical man giving anæsthetics for an unregistered dental practitioner, whether an advertiser or not, or for that matter, an advertising registered dentist. Both were unprofessional men in his eyes, and the anæsthetist who administered anæsthetics for either was not the man to administer anæsthetics for him. The whole question raised by the Resolution seemed to him to be one for private influence. The British Dental Association had no power to deal with it, and no Resolution could be formulated that could be enforced. The British Medical Association Journal had repeatedly referred to the matter in its columns, and it was not alone amongst medical journals in doing so.

Mr. STOREY thought the question came home to one with more directness in a provincial town than in a great city like London. He agreed with the importance of the private influence mentioned by Mr. Turner, but he hoped the Association might be able to take some means to let its views be known to medical men throughout the country as well. He referred to the case of a surgeon, a F.R.C.S., who had administered "gas" for an unregistered dental practitioner in his own city. The surgeon, when appealed to, said he had acted unknowingly in the case, but he would not administer for the individual in question again.

Mr. REES PRICE thought the case instanced by Mr. Storey pointed the moral to the question before them. Personally, he regarded the Branch resolution as a "pious resolution" only. He agreed with Mr. Smith Turner, and the opinion expressed by the Scottish Branch, that the question was more one for private influence, and the Branches were better fitted to deal with it than the Board. A little decentralisation on such a question would be to the advantage of the British Dental Association. In the recent case of successful prosecution by the British Dental Association in Glasgow, the defendant Hatfield (unregistered) produced in Court three testimonials from medical men. With regard to this case, and also to the question of medical men administering anæsthetics for unregistered dental practitioners, the Scottish Branch intended bringing them to the notice of the members of the three medical societies in Glasgow. He advised similar action on the part of other Branches as occasion might arise. He disapproved of including advertising registered dental practitioners in the terms of the resolution, and should vote against it.

Mr. RICHARDSON said that as a result of the action of the Representative Board in 1894 on this question, some six medical Societies had passed resolutions in somewhat similar terms to that of the Southern Counties Branch. He was in favour of approaching the British Medical Association on the subject.

Mr. SPOKES deprecated the introduction of the advertising question· He was of opinion that more good would be likely to accrue from approaching the Medical Council than the British Medical Association, for it appeared to him that a medical man administering anæsthetics for an unregistered person was practically in the position of a medical man engaged in "covering."

Mr. CUNNINGHAM considered the position taken up by the last speaker to be the true position of affairs. It was to the Medical Council applications should be made. He thought the Business Committee might be asked to draw up something in the nature of an authoritative statement on the subject.

Mr. GADDES favoured approaching the Medical Council on the question.

After further discussion Mr. Redman, by leave, withdrew his Resolution in favour of a proposal by Mr. Gaddes, viz. :—

"That it be an instruction to the Business Committee to formulate a Resolution to be given to the Representative Board with a view to its presentation to the General Medical Council, that medical practitioners should not associate themselves professionally with unregistered dental practitioners."

Mr. REDMAN seconded the proposition, which was carried *nem. con.*

In a letter addressed to the Hon. Secretary, Mr. Blandy expressed his desire to retire from his seat at the Board.

Mr. SMITH TURNER moved that Mr. Blandy be asked to re-consider his resignation. He felt sure the Board would be anxious to retain his services.

Dr. WALKER seconded the motion with much cordiality. The motion was carried.

The meeting then adjourned.

Benevolent Fund.

THE following amounts have been received since the publication of the last list (October issue) :—

New Subscriptions.

Foran, Charles, Normanton, Elm Grove, Southsea (per F. V. Richardson, Local Representative)	£1	1	0
Catt, Ernest, 12, Valley Bridge, Scarborough (per I. Renshaw, Local Representative)	0	10	6
Birch, J. Charters, South View, Brunswick Place, Leeds (per I. Renshaw, Local Representative)	1	1	0
Rose, Harry, 59, Queen Anne Street, W. (additional)	1	1	0
Sutton, John E., 15, Spring Gardens, Buxton (per I. Renshaw, Local Representative)	1	1	0
Woods, Joseph A., 76, Mount Pleasant, Liverpool (per I. Renshaw, Local Representative)	0	10	6
Matthews, A. A., 12, North Parade, Bradford (additional, per I. Renshaw, Local Representative)	0	10	6
Nowell, Walter S., 41, Wimpole Street, W.	1	1	0
Dumayne, Fred. J., 114, Burnt Ash Road, Lee, S.E.	0	10	6

Goldie, Geo. J., 10, Westland Row, Dublin (per G. M. P. Murray, Local Representative)	£1	1	0
Mordaunt, F., 157, Norfolk Street, Sheffield (per I. Renshaw, Local Representative)	1	1	0
Knowles, A. E., Russell House, Stockton-on-Tees (per I. Renshaw, Local Representative)	0	10	6
Stirling, John, 23, Wellington Square, Ayr 1897	0	10	6
Humby, W. R., 88, Newgate Street, E.C. (additional)	2	2	0
Wallis, A. Pearson, 63, Hall Gate, Doncaster	1	1	0
Lodge, G. H., Osborne House, Rotherham (per I. Renshaw, Local Representative)	0	10	6
Prideaux, H. Symes, 41, Wimpole Street, W.	1	1	0
Spokes, P. Sidney, 59, Queen Anne Street, W. (additional)	1	1	0
	£16	5	6

Donations.

"Ex-Postgraduate of Dental Hospital"	£0	10	0
Midland Branch of British Dental Association, collected at meeting, October 24, 1896 (per I. Renshaw, Hon. Sec. Midland Counties Branch)	3	8	0
Southern Counties Branch of British Dental Association, collected at meeting, October 24, 1896 (per F. V. Richardson, Hon. Sec. Southern Counties Branch)	2	10	0
White, T. Charters, 26, Belgrave Road, S.W.	1	1	0
Elmitt, S. F., 10, King Street, Newcastle, Staffs.	1	1	0
Smith, Alfred, 52, Parkhurst Road, N.	1	1	0
Collett, Edward P., 7, Wilbraham Road, Chorlton-cum-Hardy, Manchester	0	10	6
Whittaker, G. O., King's Chambers, 26, King Street, Manchester	1	1	0
Hepburn, David, 9, Portland Place, W.	2	2	0
Breese, Fredk., 256, Kennington Park Road, S.E.	0	10	6
Canton, F., 24, Upper Wimpole Street, W.	1	1	0
Ash, Claudius, & Sons, Ltd., Broad Street, Golden Square, W.	5	5	0
Thomson, George, 4, Park Place, Torquay	0	10	6
Campbell, Dr. W. Graham, 27, South Tay Street, Dundee	0	10	6
Tomlinson, John W., Belvedere House, Weymouth	0	10	6
Central Counties Branch of British Dental Association (per A. E. Donagan, Hon. Sec. Central Counties Branch)	1	10	0
Butcher, J. W., & Co., 18, Bishops Road, W.	1	1	0
	£24	3	6

Original Communication.

Root Filling.*

By CHARLES A. HAYMAN, M.D., L.R.C.P., L.R.C.S., L.D.S.

The art and science of modern dental surgery is, and should be, directed to the saving of teeth which have been attacked by decay; and extraction should be looked upon as the last resource of the dentist, much in the same way as amputation of a limb is viewed by the conservative surgeon. The trophies of our art should not consist in a heap of extracted teeth, but in their preservation. A public demonstration on the extraction of teeth has lately been given at a place of amusement in this city; a number of persons offered themselves to be operated on by the individual, who considered himself an expert in the art; now, sir, the gentlemen present will agree with me that such scenes and practices should be discountenanced; yes, and be punished by the State. It is deplorable to think that anyone should so lightly value his teeth as to submit his mouth to the tender mercies, or rather brute force of anyone so utterly unworthy of confidence. But it will take many years yet to educate the public to value their teeth; in the meantime we, as dental surgeons, must be making ourselves proficient in the art and science of conservative dentistry, and in the sphere in which we are placed; teach our patients to value and save their teeth as useful organs of mastication and articulation. And here I would digress one moment to remark on the very slight value people set on their teeth; yet they are, in a way, the very guardians of our health, and it is easy for those who have studied physiology and practical dentistry, to see the numberless ways in which bad teeth or absence of teeth lead to deteriorated health. One reason of the apparent carelessness is no doubt the dread of pain; and one problem which I would like to bring before your notice is, the best means of allaying pain in the process of stopping teeth.

Of the numerous points of interest connected with this subject, time will only permit me to briefly introduce one, namely, the treatment of teeth with dying and dead nerves.

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* Read at a Meeting of the Western Counties Branch held in Bristol, July 24, 1896.

This includes cases in which there is toothache due to simple exposure of the pulp, as well as those where the pulps of the teeth are dead and suppurating. Two conditions are necessary for the successful treatment of such cases, namely:—

(1) The patient must be prepared to bear a certain amount of inconvenience or pain during the operation, as well as set great value on his teeth, and in fact must be as anxious to save the tooth as the dental surgeon, and in every way second his efforts.

(2) The dental surgeon must be in a position to treat the case in a proper manner; he must have a certain amount of manipulative skill, and be able to give sufficient time and patience to carry out the details of the operation.

In the first place, if the case is one of simple exposure of the pulp, the dentist must decide whether he will cap the part, and so protect it from pressure, or kill the nerve. Should he decide to kill the nerve, arsenic and morphia, or Baldock's paste can be applied; and in a day or so the old nerve can be extracted and the canals and tooth filled in the ordinary way.

The treatment of a dead and suppurating nerve:—

(1) Apply the rubber dam thoroughly and well, and be sure to open up the cavity of the tooth sufficiently, and on this I lay great stress, as to me the success or failure of the treatment of nerves depends on being able to see the pulp chamber and the entrance to the nerve canals. If the foregoing can be accomplished, all the after treatment is very simple. And in passing let me say how grateful we should be if the dental instrument manufacturers could introduce a better cutting burr that would open up the crown of a tooth easily and quickly. Perhaps the recently discovered glass cutting material, carbonate of silica, or carbide of silicon, or carborundum, which is as hard, or nearly so, as a diamond, might be used.

(2) Remove all overhanging walls of enamel which are not supported by sound dentine, and remove all decay from the crown. This having been done we are now in a position to attack the pulp and nerves; but it is desirable to open the cavity well, so that one can work in a straight line; if this is not done, burs and drills are easily broken in the nerve canals, and the treatment rendered more difficult and trying.

(3) It is now necessary to remove the dead and suppurating

nerves, and in some of the cases one has to treat, the operation of reaming is painful; an application of alcohol will lessen this sensibility. In the *British Medical Journal* of July 4 there is an article describing a new local anæsthetic called Schleich's fluid, it is composed of—

Cocain Hydroch.	gr. j.
Morph. Hydrochlor.	gr. $\frac{1}{8}$
Sodii Chloridi	gr. j.
Aq. Dist. āā	℥j.

This is sterilized, and two drops of a 5 per cent. carbolic acid solution added. It occurs to me that this fluid may answer better even than alcohol. First remove the remains of the pulp and then drill each fang so as to remove the *dêbris*. This is best done with a large reamer first, but use no pressure, allow the drill to find its own way, and keep the entrance to each canal as clear as possible. Then take a finer drill with which one can get to the apex of the fang. I prefer using a large reamer first, as there is less danger of getting *dêbris* pushed up and out of the fang, which would be likely to happen if a fine drill be used and a small passage made right through the *dêbris* or substance to be removed. This is a practical point which I would emphasize. It is now a good plan to syringe the canals with hot water, in order to remove any remaining particles.

(4) The canals should next be thoroughly dried with cotton wool, or, better still, hot air.

(5) Being satisfied that nothing remains in the nerve canals, a solution of perchloride of mercury in absolute alcohol may now be sent up the nerve canals by means of a fine syringe; 1 in 500 is the strength I use.

(6) The canals are now to be again dried with hot air, and some insist on stopping the apical foramen with gutta-percha. After which, or instead, fill the canals with gutta-percha points which have been dipped in chloroform, the outer side of the gutta-percha points being dissolved and adhering to the canal walls. In treating an upper molar all three fangs are to be treated in the same way, then fill the pulp chamber, the tooth can then be filled with any material thought to be suitable.

The foregoing treatment can be used alike when there is an abscess, or where it is found that the nerve is dead and it is necessary to fill the tooth. It is very unwise to fill a tooth where the nerves are dead without drilling them out and disinfecting as above described. This would be as great a mistake as for a surgeon to leave behind a drop of septic pus in a wound, and carefully seal it up with collodion.

From the foregoing it will be gathered that the successive steps recommended are as follows:—

(1) Cut away sufficient of the tooth to enable you to work in a straight line and see the openings to the canals.

(2) Ream well the canals.

(3) Wash away the remaining particles with hot water.

(4) Dry with hot air, and make aseptic with perchloride of mercury in absolute alcohol.

(5) Dry and fill canals with gutta-percha points soaked in chloroform.

(6) Fill the tooth in the ordinary way, either at once or at any other time.

(7) If painful after treatment, paint the gum with tr. iodine and tr. aconite.

Reports of Societies and other Meetings.

General Medical Council.

Sir Richard Quain, Bart., President, in the Chair.

Restoration of Names to the Dentists' Register.

The Registrar reported that—the prescribed conditions having been duly fulfilled in each case—the names of the undermentioned persons had been restored to the Dentists' Register, from which they had been erased in conformity with the provisions of Section 12 of the Dentists Act (1878):—

Austin, Thomas Francis.
Barrington, James Robert.
Bolt, William.
Davis, Reuben.
Mosely, Harry Benjamin.
Murray, Archibald Lindsay.
Nelson, Henry.

Thursday, November 26, 1896.

Sir Richard Quain, Bart., President, in the Chair.

The Case of Mr. Clement Henry Sanders.

The adjourned consideration of the case of Clement Henry Sanders (registered as in practice before July 22, 1878) came before the Council on Thursday, November 26, 1896.

The charge was, that being a duly registered dental practitioner he acted as cover to an unqualified and not registered person named Müller, and thereby enabled him to carry on a dental practice in all respects as if he were a duly qualified dental practitioner.

On June 6, when the case was originally dealt with, the General Medical Council decided that the charge had been proved, and then adjourned the case until the present Session.

On the present occasion Mr. R. W. Turner appeared, as before, for the British Dental Association, and Mr. Johnston Watson appeared for Mr. Sanders.

Mr. Farrer: This is a case in which Mr. Sanders was found to have put an unqualified dentist in possession of a practice at Exeter, he himself attending at Aldershot. The Council found that he had done this, but it is the first case in which this covering has been brought forward, and the Council gave him time to appoint a duly qualified man to conduct his practice at Exeter and at Okehampton. Mr. Sanders has come here to say whether he has complied with the direction or suggestion of the Council, and to hear what the Council have to say to him now on the whole of the case.

Mr. Clement Henry Sanders, called and examined.

Mr. Farrer: How is your practice now being conducted at Okehampton and Exeter—under whom? A.—By a duly qualified practitioner. Q.—Can you give us his name? A.—Mr. Volke. Q.—Is he on the Register? A.—I believe so. I have not got his initials.

The Registrar: I see that he is registered.

Mr. Farrer: I see you have complied with the requirements. When was he appointed? A.—June 29. Q.—At which place is he? A.—88, Queen Street, and he also does the practice, which is about six hours during the week, on Saturday, at Okehampton. Q.—He attends for the bulk of the week at Exeter, and on Saturdays, which I suppose is market day, at Okehampton? A.—Yes. Q.—When did he go there? A.—June 29. I had another gentleman in practice previous to Mr. Volke. Q.—When did you appoint the earlier registered gentleman? A.—Either April 27 or 29. Q.—Since April last your practice has been in charge of a registered practitioner? A.—Entirely so.

Mr. Farrer: The gentlemen who made the complaint have not given any notice that they have anything further to say. The matter is now in the hands of the Council.

Dr. McAlister: Are you now employing any unqualified assistants? A.—Not for operating; only as mechanics. Q.—Are you employing Mr. Müller? A.—Mr. Müller is in my employ as a mechanic.

Dr. McAlister: That is the unqualified assistant with regard to whom the charge was made.

The President: Will you undertake to the Council not again to engage the services under like circumstances of an unqualified assistant? A.—That is my intention. I will give an undertaking not to employ an unqualified man as an operator. I did so at the meeting of the Council in February, and I have tried to do my best to act up to that.

The President (to Mr. Turner): Have you any statement to make?

Mr. Turner: No, sir. We left the matter where it was so far as the evidence was concerned, at the enquiry before the Dental Committee. We said then that it was the first case, and of course it was not for the British Dental Association to press the matter. At the same time we want it clearly understood that there is to be—if I may use a colloquial phrase—no humbug about the words "Operator" and "Mechanic." That is the trouble we have had with all these people. So far as men in the workshop are concerned, of course anybody may be employed, but when it comes to actually seeing patients, then we say it is covering. If Mr. Sanders clearly understands that, and there is no riding off upon what operating and mechanical work means, I am satisfied for the Association, but we want that clearly understood. It may be remembered that at the inquiry the gentleman seemed to have some very vague notions as to whether stopping with gold required a qualified man, and stopping with alloy an unqualified man. I wish these points to be clearly understood.

Dr. MacAlister: Do you employ any of your unqualified assistants for operating purposes at all? A.—No. Q.—And you do not propose that you ever shall? A.—No.

Dr. Heron Watson: I should like to ask whether Mr. Sanders employs a qualified or unqualified man to administer chloroform or anæsthetics. A.—I always employ a doctor in any case where anæsthetics are required.

Dr. Heron Watson: Do you mean a registered medical practitioner? A.—Yes.

Dr. Glover: Do you think the employment of any other man would be improper? A.—I do not think I should attempt it. I should never attempt such a thing. I never have yet.

Dr. Thorne Thorne: I think the only other point upon which we wish to be clear is this—whether Mr. Sanders is going to allow an unqualified man to see his patients at all, or whether he is not? A.—I am not.

Strangers having, by direction of the Council, withdrawn, the Council deliberated on the case *in camerâ*.

At the conclusion of the deliberations of the Council on this case, on motion made from the chair, it was resolved, "That the Council having further considered the charge made against Clement Henry Sanders, does not adjudge him guilty of infamous conduct in a professional respect."

Strangers having been re-admitted,

The President: The Council have very carefully gone into your case, and they have come to the conclusion that having further considered the charge made against you, it does not adjudge you guilty of infamous conduct in a professional respect; at the same time, we advise you in the future to be extremely cautious, and to pledge yourself that you will not employ an unqualified assistant in any capacity.

Mr. Sanders: I will give you my word, sir, and I will keep it.

The President: That ends the case.

Tuesday, December 1, 1896.

Sir RICHARD QUAIN, President, in the Chair.

THE REPORT OF THE DENTAL EDUCATION AND EXAMINATION COMMITTEE.

The following is the Report by the Dental Education and Examination Committee, presented to the General Medical Council:—

MEMBERS.

Mr. Bryant, Chairman; Mr. Carter, Dr. Cameron, Sir Philip C. Smyly, Dr. Fraser.

The Dentists Act was passed in 1878.

On March 26, 1879 (Vol. XVI., p. 147), a report by the Executive Committee on the qualifications for registration under this Act was received, entered on the minutes and adopted by the General Medical Council, and on July 19, 1879, the final report of the Dental Curriculum Committee of the General Medical Council was adopted (Vol. XVI., p. 251).

On November 28, 1894, a report of the Education-Committee on the codification of the existing regulations applicable to dental qualifications was received and entered on the minutes (Vol. XXXI., p. 141).

On May 26, 1894, the Council, when considering a report by the Education-Committee on the curriculum for the licence in dentistry, agreed to the following resolution, on the motion of Drs. Tuke and Bruce:—

"That in order that the Council may be assured that the requirements especially dealt with in this report and other requirements are being fully complied with, they shall, in accordance with Section 22 of the Dentists Act, 1878, appoint an inspector or inspectors, whose duty it shall be to visit and report on the examinations conducted by the bodies granting qualifications in dentistry, with special instructions to examine the schedules and certificates presented by every candidate, and that it be remitted to the Executive Committee to consider the best way of carrying out the inspection."

On November 26, 1894, the Executive Committee proceeded to consider the above resolution, and resolved (Vol. XXXI., p. 223):—

"That Mr. C. S. Tomes be deputed to be present at, and report to the Council on, the examinations of the bodies granting dental diplomas, and that, like the visitors appointed by the Council to attend the medical examinations, he be paid his travelling expenses and hotel expenses;

"That the Registrar be instructed to obtain from the bodies granting dental diplomas, the dates of their examinations during 1895;

"That the Executive Committee arrange at its meeting in February the commencement of the visitation."

On February 25, 1895, the Executive Committee resolved:

"That the inspector be requested to attend the examinations conducted by the bodies granting qualifications in dentistry at such times as may be most convenient to himself during the present year" (Vol. XXXII., pp. 169, 170).

On June 6, 1895, the existing dental education and examination committee was formed, and the following Report of the Committee, based upon the reports of the Council's inspector of dental examinations, is now presented to the General Medical Council.

The Report is headed by a table prepared for the Committee by the Registrar, to show the curriculum as laid down by the General Medical Council, and how far the regulations of the four Dental Licensing Bodies are in conformity with those requirements.

It is pleasing to have to report that all the bodies now come up to the required curriculum, although the scheme of the Royal College of Surgeons of England differs somewhat from that originally laid down—for example, a course of Materia Medica lectures is not now required in their curriculum, whilst attendance at a recognised General Hospital for two winter sessions instead of for one year is called for; as well as attendance upon a course of Dental Histology, with separate practical courses of Dental Surgery, Metallurgy and Mechanical Dentistry. The Royal College of Surgeons of Ireland also requires two courses of Dental Surgery and of Mechanical Dentistry.

These deviations from the original requirements of the General Medical Council, it may be observed, in no way depart from the Council's wishes, since they all tend to make the practical part of the course of study more complete.

The Committee would here point out to the Council, that whilst there is but one Dental Licensing Board in England

and Ireland—(the two Royal Colleges of Surgeons)—there are two in Scotland, viz., the Royal College of Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow.

This Committee fails to see the advantages of Scotland having two Dental Boards, and would recommend that they should unite and form one Conjoint Board, so that there would then be but one Dental Licensing Body in each division of the United Kingdom.

The new regulations of the English College, that there shall be a Preliminary Science Examination, followed by two Professional Examinations, seems to this Committee to be framed entirely in the right direction.

Under this arrangement, Candidates for the Dental Diploma, before entering at a Dental School, may present themselves for the Preliminary Science Examination on the production of certificates of having received instruction at an institution recognised by the College for the purpose in Chemistry, Physics and Practical Chemistry—these subjects being limited by Synopses; the examination being equivalent to Part I. of the First Examination of the Conjoint Examining Board in England.

The first Professional Examination—including Mechanical Dentistry and Dental Metallurgy, is open to the student after the completion of his three years' instruction in Mechanical Dentistry under a competent practitioner, and six months' attendance at a recognised Dental Hospital and School, on production of certificates of having attended both a course of lectures on Dental Metallurgy and a course of practical Dental Metallurgy, a course of lectures on Dental Mechanics, and a course of practical Dental Mechanics, including the manufacture and adjustment of six dentures and six crowns.

The Second, or Final, Professional Examination on Dental Anatomy and Physiology (including operative work), Human Anatomy and Physiology, and Surgery (including Pathology), may be passed after the completion of the student's four years' professional study from the date of registration as a Dental Student, on production of the required certificates as laid down in the regulations, and after the lapse of not less than six months from the date of passing the first professional examination.

The Committee would likewise urge the adoption of Rule

IV. in the Recommendations of the General Medical Council, as formulated by the Examination-Committee in their Report, presented June 9, 1896:—

"That a Candidate remitted in any subject should, before he is admitted to re-examination, be required to produce satisfactory evidence that he has pursued the study of that subject during the interval of remission" (Vol. XXXIII., 1896, p. 204).

This Committee cannot but express their regret that the Royal College of Surgeons of Ireland has not yet fallen into line with the three other Dental Licensing Bodies, by giving up, as they have done, the examination of *sine curriculo* Candidates.

As long as such Candidates are admitted to examination, can obtain a license upon easier terms, so long *cum curriculo* Candidates will not apply for the same qualifications; and, as a consequence, the good which might have been expected from the Dentists Act in raising the standard of the Dentists' Diploma will hardly be attained.

The Committee cannot too strongly urge upon the General Medical Council to so influence the Royal College of Surgeons of Ireland as to induce them to give up, as speedily as possible, examining *sine curriculo* Candidates.

The Committee have no recommendation to make to the General Medical Council respecting alterations in their curriculum, which was laid down in 1879 after the passing of the Dentists Act. All the Examining Bodies in essential matters now follow out the curriculum and fairly well maintain the standard of the Examination; where the arrangements of the Examining Bodies deviate from the scheme they do so in order either to develop the practical branches of the dental art, or towards the curtailment from the course of study or the Examination of such subjects as seem to be, or have been proved to be, non-essential.

The Committee recommend the Council to leave the responsibility of sanctioning these deviations in the hands of the different Examining and Teaching Bodies, under the conviction that by so doing they will, through the experience of these Bodies, be helping the solution of the problem as to the best scheme of education and examination of the Dental Student.

THOMAS BRYANT, *Chairman.*

Mr. Bryant: I beg to move "that the Reports on the inspection of the Qualifying Examinations of the following Dental Licensing Bodies:—(1) The Royal College of Surgeons of England; (2) the Royal College of Surgeons of Edinburgh; (3) the Faculty of Physicians and Surgeons of Glasgow; (4) the Royal College of Surgeons in Ireland; (5) on the qualifying examinations in dentistry, and (6) on a letter from the Royal College of Surgeons of Edinburgh," be received and entered on the minutes.

Mr. Wheelhouse seconded the motion, which was agreed to.

Mr. Bryant: I rise, sir, to propose that the Report on the Inspection of the Faculty of Physicians and Surgeons of Glasgow be adopted. I will try to make my observations as brief as I can, but we must not forget that this is the first visitation that the Examining Bodies have had from this Council, and it is therefore the first Report that has been handed to this Council on the examinations of the Dental Licensing Bodies. I propose to take these Bodies in the order in which they were visited, and the first that was visited was the Faculty of Physicians and Surgeons of Glasgow. I might say in this, as in others, in order to save time, that if you will look down page 6 of the final Report of the Dental Education and Examination Committee you will see the different schemes drawn out for comparison. At the top of the page is the scheme stating the requirements of this Council, and in the four following columns you will see the different schemes examined by the four Dental Bodies. If you critically look at that you will find on the whole that the curriculum required by this Council has been fairly followed, and that where deviations have occurred they are on the lines suggested by this Council, and possibly a little in advance. So that this Report on the Faculty of Physicians and Surgeons of Glasgow is fairly in accord with the requirements of this Council. [Report read.] I move "That the Report of the Examination Committee on the Inspection of the Dental Qualifying Examination of the Faculty of Physicians and Surgeons of Glasgow be adopted."

Mr. Wheelhouse: I beg to second that.

Dr. Cameron: The fact that Mr. Bryant has so very fairly read this long answer of the Council of the Faculty to the remarks of the Inspector, renders it unnecessary that I should have to enter into a very lengthy explanation. There are, however, one or two points to which I should like to refer. Perhaps one of the most serious criticisms of the Inspector is where he says that the marks in one case were apparently adjusted to enable the candidate to pass. That criticism occurs at page 16 of the Inspector's Report. In the first place, I may say that personally I do not think it is a wise thing that the oral examiners, in assessing the numerical value of the oral examination, should have before them the numerical value that has been appended to the written examination. But we must remember that, after all, a certain number given as a judgment on an examination is only an approximate judgment. The fact that the judgment is expressed in exact terms unfortunately does not make the judgment itself exact, and there can be no better example of that than the case referred to in the last inspection of the Apothecaries Hall of Dublin, in which it is stated by the Inspector and the visitor that the two examiners, after listening to the performance of one of the candidates, assessed the value, the one at 20 and the other at 50 per cent. It therefore follows that two examiners, equally competent and listening to the same answers, may come numerically to very different conclusions, whereas if they had had the opportunity of discussing the matter they might be found to be very much more nearly in agreement. For my own part, where a student does remarkably well in a *viva voce* examination, and is only a very little below the mark in a written examination, I think it is a fairly arguable point whether a complementary number may not occasionally be given in order to allow him to pass on the whole. I do not give any personal opinion in regard to that, but at least it admits of argument. In this case, however, the examiner says:—"I am perfectly convinced that had the examiner not had the marks of his paper before him at the time, he would not have felt the smallest temptation to give him pass marks in his *viva voce*, far less to give him a little more." But, unfortunately, in this very case, the Inspector had got seriously confused, apparently, as between two candidates. He had followed the candidates from table to table, and he had mixed up the various subjects. He says:—"One candidate, who was of opinion that quinsy was an inflammation of the parotid gland, it having, with much difficulty, been elicited that it was an inflammation in any gland at all, and whose answers throughout were very poor indeed, received pass-marks. Following the same candidate to another table, I heard him questioned upon the treatment of neuralgia. He proposed to prescribe iron; asked in what form, he said Blaud's pill, but he had not the least idea what form of iron it contained, nor could he give the dose and constitution of any form of iron. Asked for another tonic, he proposed ten-minim doses of Fowler's solution, which he considered to contain arsenious acid and morphia, but he did not know in what quantity. His other answers were of the same type, yet, it being apparent that he had received a little less than pass-marks for his paper (more in my opinion, than the paper deserved), he was actually given more than pass-marks, so as to make up his deficiency on the paper." Now that, gentlemen, was really two single gentlemen rolled into one in some way or other, because there is not one man on whose schedule there is evidence of his having been examined in all these subjects; so that, as is stated in the foot-note in the answer of the Faculty, evidently the Inspector was led into an inadvertent error in this matter. As regards the other unfavourable criticisms of the Inspector, most of them are really conceded by the Faculty, and most of them have been corrected, or are in process of correction, and the Council may rely on their being loyally followed out.

Sir Philip Smyly: Just one word in explanation. The last speaker has alluded to the examination of the Apothecaries Hall in Dublin. That was the conjoint examination of the Apothecaries Hall and the College of Surgeons. He is also a little confused with regard to the difference in the examiner's marks, and has been a little misleading. There were two examiners who gave very different marks. The subject was operative surgery. One examiner had his operations done very well—it is mentioned in the Report. The other gave tracheotomy, and the student performed badly, so that the difference in the marking was from the fact that the two operations had been performed in a different manner, and not from any difference of opinion upon the whole examination.

Dr. McVail: I should like to point out that what purports to be the Report of the Committee on page 33 does not make one word of comment; it is a mere abstract of what is said first of all by the Inspector, and second by the body examined. It is not a report, but a mere abstract of what has gone before. How can we adopt that? It means nothing. It looks as if the Committee had been frightened to say anything as between the Inspector and the body examined. I think they are quite right. But they should say so, because there is no doubt that it is one of the most peculiar inspections that has ever been placed on any body. It is a most extraordinary document altogether, and I can quite understand that it has been too much for the Examination Committee. To talk about agreeing to this Report on page 33 and 34 is absurd, because there is no Report in it.

Mr. BRYANT: I would ask Dr. McVail to remember that this is only one of a series, and that the final Report of the Committee takes into consideration the whole of them together, so that there will be some comments in that Report. We did not think it expedient to make any comments or express any positive opinion about this Report as it stands now.

Dr. MCVAIL: Would not it be better to cancel pages 33 and 34?

Mr. BRYANT: I do not see that we can cancel them. I will add, in order to fall in with Dr. McVail's views, "That the Committee are pleased to find the examination a sufficient one."

The motion was agreed to.

Mr. BRYANT: The next report to which I wish to draw the attention of the Council is the one on the inspection of the Examination of the Royal College of Surgeons of Edinburgh. [Report read.] I should like to say that the requirements of the Dental Board are quite up to the requirements of this Council, and there are no exceptions; indeed, I think they have been particularly loyal, they seem to have followed them in every detail in the right way. In order to fall in with Dr. McVail's criticism on the previous Report, I will add—"The Committee of the Dental Education and Examination Committee are pleased to find that the Report is in every way satisfactory and sufficient." I move: "That the Report of the Dental Education and Examination Committee on the Inspection of the Dental Qualifying Examination of the Royal College of Surgeons of Edinburgh be adopted."

Dr. Heron Watson: I have much pleasure in seconding that. I believe the College that I have the honour to represent will be perfectly satisfied with the amount of care which has been bestowed on the question of inspection of this examination in dental surgery. So far as the College is concerned, it has every reason to be satisfied with the observations which have been made, and to regard the statements contained, whether in the account of what has occurred or in the recommendation of the Inspector, as singularly full, singularly destitute of any important objection, and containing a number of things which, no doubt, will be estimated at their proper value in the consideration of these matters in the time to come.

The motion was agreed to.

Sir William Turner: I beg to propose "That the further consideration of the Reports of the Dental Education and Examination Committee be adjourned until the May Session."

Mr. Teale seconded the motion.

Mr. Bryant: I feel that these reports are important, and at this late period of the Session the members of the Council are not giving that attention to them which they deserve, and therefore I think it is expedient that we should fall in with the suggestion, although I support it with very much regret indeed.

Dr. Heron Watson: I have a motion down on the paper with reference to a practical question, which it appears to me is of some importance, bearing on the letter from the Royal College of Surgeons of England, which is among the reports from the Dental Committee. It is of importance when we take into view the fact that the London College is preparing to make a new departure with regard to their curriculum in connection with their examinations. I presume that it is their intention, from the documents which I have received, that these alterations are to come into force on January 1, 1897. If this matter is not taken up now, then I suppose the Royal College of Surgeons of England will carry out their expressed intention. If they will withhold putting it into operation until the matter has been laid before the Council, then I should not trouble the Council in the matter, because the information I wish to derive is upon the very important question of the relation which the bodies have towards this

Council in introducing any new arrangements with reference to new educational methods at the examinations. If I have an assurance from the representative of the Royal College of Surgeons of England that it is not their intention to carry through this new scheme of education and examination of dentists in the early part of the year 1897, until the question has been brought up as to what the position of the different bodies is with regard to the undertakings given in connection with the recommendation of this Council, I shall be quite content.

Mr. Bryant: The observations which Dr. Heron Watson has made are very interesting, and they are calculated to draw me into a very long and important discussion, but that course I do not intend to adopt. The College I represent has drawn up those regulations; they have passed the Council of the College, and they will come into operation on January 1, 1897. We show remarkable deference to the General Council, but we do not feel that we are bound to ask them, or any other body, what we are to do, as to what we consider best for education; and my own feeling is that it is well that this Council should recognise that fact, for it has happened—and I daresay it will happen again—that by giving a little liberty to examining and conducting bodies, those bodies will often advance and show this Council the way in which other bodies should go. Our College of Surgeons has done that before, and I am disposed to think in this question of dental arrangement that we may be doing it now. I am sorry I cannot give comfort to the representative of the College of Surgeons of Edinburgh, who has handed in a very curious letter from his College criticising and finding fault with my College for venturing to do anything without the sanction of this Council. As the representative of the College of Surgeons of England, I repudiate altogether this Council interfering with our work, unless we show very strong indications that we are going against the principles which have been laid down by this Council. I can show very easily that the regulations which my College have now made as regards the dental examinations are consistent with the principles which have been laid down by this Council, and I could as easily show that they are very far in advance of those adopted by other bodies. Under those circumstances I do not know what Dr. Watson may say.

Dr. MacAlister: As this question has been raised, I may say that it appears to me that the Dental Education and Examination Committee would have done better, and your chairman would have done better, if they had asked the Council's instructions with regard to revising the existing requirements of the Council, because I see in his Report he calls them "the existing requirements of this Council." If it turned out those which were antiquated, and that advance was desirable in the direction indicated by the Royal College of Surgeons of England, I am perfectly sure that this Council would endorse any recommendation for its improvement. But as several bodies in different parts of the kingdom are supposed to be more or less bound by our requirements, I think it is desirable that they should advance side by side, and that one body should not take the lead, although it may be for the improvement of dental education. If it does so it shakes off the authority of this Council altogether, and other bodies may do the same, and not advance, but recede. They might equally say, "We do not care what you require," and a dangerous principle would be introduced. I would therefore suggest that if the Report of the Committee on the letter from the College of Surgeons, Edinburgh, is deferred with the other Reports, that the Examination Committee should take the matter up again with a view to re-casting, if necessary, and improvement if they think fit, the present requirements of this Council, so as to bring them into conformity with the latest advances of science and experience.

Dr. Heron Watson: I am in a great difficulty, but as we have matters of such urgent importance before us, I do not desire to press this matter any further. I suppose this question will be transferred from the present session of the Council to the May meeting next year, and we shall then have an opportunity of taking the matter up. This is a constitutional question which I have brought forward in my motion, and it has to do with the right of any Body who understands what the requirements of his Council are with reference to their educational scheme, and granting diplomas for certain subjects, to differ from those requirements, and differ in a way not of addition, but of subtraction. For example, what the Royal College of Surgeons of England propose to do in one matter is, instead of having two courses of anatomy, to have only one; instead of having medicine, medicine is entirely brushed away with the exception of attendance at a course of lectures. There is to be an attendance at the hospital only in connection with clinical surgery, and surgery and not upon medicine at all; and materia medica is to be entirely dropped out. I do not enter into the question as to whether it is a wise or an unwise change, but it does seem to me that it is a somewhat awkward state of matters for this Council—when our requirements are known, and when there is a representative of the Royal College of Surgeons of England upon this Board—that this measure should be carried out without one word being said to this Council of any proposal on the part of the College to make these changes, and especially changes of a kind which are to diminish the amount of education at present required by this Council. I say that is to be regretted very much indeed. I am not given to be suspicious, but one can hardly suppose that a man of Mr. Bryant's intelligence could think for one moment that we should be made otherwise than suspicious by the fact that while it was immediately after the meeting which we held in May and June that this subject was taken up, we hear nothing about it until the very last day of this meeting. None of the papers were put in circulation. In fact I believe that had it not been for this letter from the Royal College of Physicians, Edinburgh, in connection with this point, there would have been no note of warning given at this meeting as to what was prospectively in view on the part of the Royal College of Surgeons of England, and what the difficulties of the other Bodies would be as regards their position towards this Council when they saw what was being done. I deplore the idea of the Royal College of Surgeons, England, going in the direction of reduction of the subjects in their curriculum without having presented a notice of it to this Council and asking their opinion,

Sir William Turner: Would you mind reading Section 22 of the Dentists Act? I think it is as well to emphasise the point.

Dr. Heron Watson: My motion does emphasise it. It is: "That in view of the action of the Royal College of Surgeons of England in the matter of altering the scheme of education and examination of that College for their dental diploma without previous communication with this Council, together with the statement contained in a foot-note on page 5 of a report of the Dental Education and Examination Committee to the General Medical Council, signed by Thomas Bryant (chairman) of, date November, 1896:—'that the College of Surgeons of England has never admitted that its regulations required the sanction of the General Medical Council'—this Council do now instruct the Registrar that he shall in each year apply in writing to each of the Bodies granting dental diplomas or certificates, requiring it to furnish to the Council before its May meeting, in accordance with the provisions of Section 22 of the Dentists Act, 1878, such details of its existing regulations, under which it grants a diploma or certificate to practise dentistry or dental surgery as shall enable this Council to determine how far these regulations conform to the existing requirements of the Council." I had better perhaps read that clause 22 in order to enable the Council to at once apprehend what it is that I allude to. "Every medical authority shall from time to time, when required by the General Council, furnish such Council with such information as such Council may require as to the course of study and of examinations to be gone through in order to obtain such certificates as are in this Act mentioned, and generally as to the requisites for obtaining such certificates." That being in the Act seems to give me a stronger case in favour of my remarks, and I would therefore very urgently desire that either Mr. Bryant would agree that no further action shall be taken in the matter until the Council has had an opportunity of considering this motion, or if that cannot be so, I should then crave the permission of the Council to move the motion which I have just read, and take its opinion upon it. I cannot, of course, at this late hour, think of taking up the time of the Council by entering into all the details which I otherwise should have done, but this appears to me to be a very important constitutional question with reference to the position of the Council with regard to one of the bodies which sends its representative to this Council, which is supposed to be the regulating body of the medical profession—more especially with reference to matters of educational examination.

Sir WILLIAM TURNER: I would venture to point out that my motion for delay does not cover Dr. Watson's motion.

My motion for delay merely covers the reports, and leaves Dr. Watson free to move his motion. The reports which I propose shall be adjourned are those upon the Royal College of Surgeons of England, the Royal College of Surgeons in Ireland, and on the Qualifying Examinations in Dentistry.

The motion for the adjournment of these reports was agreed to.

Dr. HERON WATSON: Then I will now move (1) "That the letter from the Secretary of the Royal College of Surgeons of Edinburgh addressed to the President of the General Medical Council, be received and placed upon the Minutes." (2) "That in view of the action of the Royal College of Surgeons of England in the matter of altering the Scheme of Education and Examination of that College for their Dental Diploma without previous communication with this Council, together with the statement contained in a footnote on page 5 of a Report of the Dental Education and Examination Committee to the General Medical Council signed by Thomas Bryant (Chairman), of date November, 1896, 'That the College of Surgeons of England has never admitted that its Regulations required the sanction of the General Medical Council,' this Council do now instruct the Registrar that he shall in each year apply in writing to each of the Bodies granting Dental Diplomas or Certificates, requiring it to furnish to the Council before its May Meeting, in accordance with the provisions of Section 22 of the Dentists Act, 1878, such details of its existing Regulations under which it grants a Diploma or Certificate to practise Dentistry or Dental Surgery, as shall enable this Council to determine how far these Regulations conform to the existing requirements of the Council." I think I had better now read this letter from the College of Surgeons of Edinburgh which I avoided doing before. In doing so I shall only state that there was no wish on the part of the College of Surgeons of Edinburgh to say anything disrespectful of the College of Surgeons of England in connection with this matter. The great object they had in view was to obtain the opinion of the Council upon the constitutional question as to the right of a Body sending a representative to this Council to make changes in its scheme of education and examination, more especially such changes as are suggested in connection with this new arrangement with regard to the dental curriculum of the Royal College of Surgeons of England, which it is proposed shall be brought up on January 1, 1897, without first having submitted it to this Council for an opinion as to whether they regard it as in accordance with the requirements of the dental curriculum of the Medical Council which was brought up in the first instance in March, 1879, was again brought up in 1894, and has again been brought up by the Report of the Committee in 1896, in which we may say that no material change is suggested anywhere. The first indication that I received on this matter was when I had seen a document which says at the top,—"January 1, 1897, Examination Hall, Victoria Embankment, London, W.C., Royal College of Surgeons, England. Regulations relating to the Diploma in Dental Surgery;" and which we are now informed is really to be brought into operation upon the first day of January, 1897. From the further remarks we have heard, we are given to understand that although they may present to us this matter, they certainly are not inclined to do anything more than go through a formality, as they regard themselves as entirely exempt from being under any direction of the Council. I shall now read the letter which has been sent by the Secretary of the Royal College of Surgeons of Edinburgh, dated November 17, 1896:—

"SIR,—I am directed by the President of the Royal College of Surgeons of Edinburgh and his Council to apply to you for information regarding the course of study, and the examinations required by the General Medical Council for the Dental Diploma. In the Regulations thereto passed by the General Medical Council on March 25, 1879, the following courses, among others, were required:—(1) A second course, during a Winter Session, of Anatomy; or, alternatively, a course of not less than twenty Lectures on the Anatomy of the Head and the Neck. (2) A course of Chemistry, six months. (3) A course of Practical Chemistry. (4) A course of Materia Medica. (5) Twelve months' attendance at a General Hospital, with Clinical Instruction.

"From the 'Report of the Education Committee, on the Classification of the existing Regulations of the General Medical Council applicable to Dental Qualifications,' in 1894, it would appear that these Regulations are regarded as being in force; and that Registration as a Dental Student must precede the course of Professional Study laid down by the Council in 'the same manner as the existing Regulations for Medical Students.' The Royal College of Surgeons of Edinburgh has, accordingly, required candidates for its Dental Diploma to conform to the Regulations of the General Medical Council. It appears, however, from the 'New Regulations relating to the Diploma in Dental Surgery' issued by the Royal College of Surgeons of England, July 9, 1896, that there are the following departures from the Regulations of the General Medical Council:—(1) The second course of Anatomy is not required, nor is any equivalent course, such as that of Anatomical Demonstrations, as enjoined by the Edinburgh College, required. (2) Attendance on a course of Materia Medica is not required. (3) In the attendance prescribed at a General Hospital, attendance in only Surgery and Clinical Surgery is required. (4) In the Synopsis of the subjects of Examination appended to the Regulations of the English College, that of Medicine is altogether omitted.

"The President of the Royal College of Surgeons of Edinburgh and his Council are, therefore, desirous of being informed whether these changes, made by the Royal College of Surgeons of England in the Regulations for its Dental Diploma, have been made with the cognizance of the General Medical Council, or have been sanctioned by it. Several other changes, such as the terms of attendance on Chemistry and Practical Chemistry might also warrant inquiry, but the matters specified above are those which the Royal College of Surgeons of Edinburgh regard as more immediately requiring explanation. "I am, sir,

"Yours faithfully,

"FRANCIS CADELL (*Secretary*)

"*To the* PRESIDENT *of the*
"GENERAL MEDICAL COUNCIL."

The reason why I mention the summer meeting rather than the winter for obtaining this information, is, that the summer meeting is supposed to be more dedicated to inquiry into matters of educational examination, and we should be in a position to have the matter fully and satisfactorily inquired into and reported upon to this Council upon the fresh information which will be obtained.

Sir WILLIAM TURNER: I beg to second the motion.

Mr. BRYANT: I think my best answer to Dr. Heron Watson will be to read the Report of the Dental Education and Examination Committee, for it was you, sir, who handed to me the letter which has just been read from the Royal College of Surgeons, Edinburgh, with a request that it should be handed to each Committee, and that each Committee should report upon it. I have the Report in my hands and I will read it. [The Report was read.]

Dr. Heron Watson: Who is that Report signed by?

Mr. Bryant: By myself, as Chairman of the Education Committee.

Dr. Heron Watson: And as having prepared the Report, I suppose, in the usual way?

Mr. Bryant: Yes.

Dr. Heron Watson: Precisely.

Mr. Bryant: It comes from the Committee itself.

Dr. Heron Watson: Mr. Bryant is the representative of the English College on this body?

Mr. Bryant: Perfectly true.

Dr. Heron Watson: And it was issued by the English College upon the date which I read, viz., July, 1896. With reference to that Report, I may say that the Royal College of Surgeons of Edinburgh require a second course in anatomy.

Mr. Bryant: It is not stated so here.

Dr. Heron Watson: It is an imperfection of the prints.

Mr. Bryant: I felt considerable difficulty in separating myself, as it were, as representing my own College and as representing this Council. I think, looking at it with one eye as representing this Council, I can find no fault with the Report. And I may say that my colleagues saw my difficulty and helped me very kindly to get out of it, so that I should not show there was any partisan feeling as representative of the College. I should be most sorry if I thought I had carried that feeling in the Report; I tried to avoid it, and I believe I have succeeded. I emphasised in my observations that the requirements of the General Medical Council were well observed by all the four bodies, and I do not know how such a mistake could have been made as has been alluded to. This was drawn up by this office from material we have here, and I went over it myself, and I confess I did not see that the Edinburgh College had a second course in Anatomy. If it has, it has not done itself justice; for it is not down on the curriculum. Apparently none of the bodies require a second course. In all the other matters my own College entirely follows the recommendations or requirements of this Medical Council, with the exception of dropping out materia medica. They have dropped out materia medica in the Conjoint Board; that goes in with therapeutics. But as a special subject of examination it no longer exists. We have brought up the

Dental Board to the same as the Conjoint Board. We never have examined in medicine, although a student is required to attend at a recognised hospital for a whole year. He must attend a course of lectures in medicine, but we do not examine him in medicine more than the ordinary examination in dentistry. There is medical dentistry as well as surgical dentistry; they come in together, and we cannot separate them. There are only two deviations—only one really, viz., the materia medica, because I do not call the anatomical one a deviation—and we have additional subjects of a very practical kind. And when the College of Surgeons of Edinburgh states in such a very definite way that the College of Surgeons has broken through so many of these regulations, I feel bound to point out that they have failed to establish that charge. They say that the second course in anatomy is not required. That is true; it is not, and it never has been. It was given up in 1889, and the other Licensing Bodies, with the exception which I now hear of from Dr. Heron Watson, the College of Surgeons of Edinburgh, have all given it up. The College of Surgeons of Edinburgh say that we give no anatomical demonstrations. If they had made the slightest inquiry into the matter they would know that that is not the case. We give as many as to the ordinary medical students, and therefore that statement is utterly incorrect. They say that attendance on materia medica is required. That is true.

Dr. Heron Watson: May I interrupt Mr. Bryant a moment? This is the Medical Directory, and on page 1,439, among the requirements of the College of Surgeons of Edinburgh, there is this: "Candidates commencing their studies after October 1, 1890, must attend the following curriculum. Anatomy, one course of six months; practical anatomy, twelve months; chemistry and metallurgy, one course, six months." I think there has been an error in this. There are two courses of practical anatomy, but there is only one course of systematic lectures upon anatomy, and that is taken since October 1. Prior to October 1, there was anatomy of the head and one course in addition, but in anatomy there was only one course required. They gave up the "head and neck" part, but they have adopted a second course in anatomy.

Mr. Bryant: We went by the Report of the Examination

Committee on the codification of existing regulations of the Medical Council.

Dr. Cameron: May I point out that the Report of the Regulations of the Edinburgh College given in the Report before us says for students beginning October 1, 1890, six months' anatomy, six months' practical anatomy, and demonstrations twelve months. That is all.

Mr. Bryant: I am justifying the action of the Committee. We take the evidence given in this chamber as regards the requirements of the Edinburgh College, and here we have it, as I said, in the Report of the Education Committee on the codification of the existing regulations of the Medical Council applicable to dental qualifications, and here, under the head of the Royal College of Surgeons, Edinburgh, we have anatomy one course, six months, practical anatomy twelve months, and that has been our guide. With that before me I could say no more than that we were entirely in unison with all the other medical corporations, and so we are. Then on the question of materia medica we grant that, but we have given it up in the conjoint, and therefore in this. The attendance prescribed at the General Hospital is only clinical surgery. That is all we demand, because it is on those subjects that the students are examined. We do not require evidence of their having attended a course of clinical medicine at all, and we do not think it necessary, and we never have done so. Then they say, "In the synopsis of subjects for examination, that of medicine is altogether omitted." That is quite true, and I have explained why. With respect to these questions of practical chemistry, and so on, I do not know that I need say any more than I had to say when we were discussing the question of preliminary examination at the Conjoint Board for the full qualification in medicine and surgery. We will accept examinations if the students have been examined by authorities we recognise. We want to have all these preliminary subjects looked upon as preliminary subjects, and got rid of before the student commences his medical career. With the dental student we do precisely the same as in the curriculum for the fully qualified diploma.

With respect to the want of courtesy of which Dr. Watson has accused us, I confess that I feel much aggrieved. We are always willing and anxious to show the fullest consideration and courtesy to this Council, and I think personally that one has always felt and shown it. But neither my own College, nor, I think, any other College, has recognised the necessity of asking the permission of this Council to alter their curriculum in the way they think best. For my own College I will say at once that they do not admit that at all. When they have formed their conclusions and have drawn up their curriculum—always having the requirements of this Council before them, and always considering them very closely, having it in a measure as a kind of guide—they then present this Council with the product of their labour, and this Report of the New Regulations of the Royal College of Surgeons in Examinations in the Dental Curriculum was handed to this Council as soon as it could have been done, and we have shown no discourtesy whatever. If Dr. Heron Watson charges us with discourtesy because we have not asked permission to alter our curriculum before we considered it, then I will accept the position entirely and say that we have utterly failed, and what is more, we shall fail again. I do not think in such a thing as this that any College should really come up to the Council to ask their advice upon many matters upon which the College believes itself to be as capable—and some might think more capable—than is this Council, of coming to a conclusion. This Council is here to harmonise the differences that exist between the corporations, and if this Council can show there are such differences in the curriculum which our College has laid down with regard to dental education and examination, we shall only be too happy to reconsider them in the light of your opinion. You have not had an opportunity of forming an opinion upon the curriculum yet, because you never had it. We have not given you that opportunity because we could not. We have taken the very earliest opportunity of handing it to this Council. So that I do hold that we have not failed any way in any of those acts of courtesy and consideration which are due from a great corporation to a great Council like this. If it was thought that in any way we had been discourteous, I would make a humble apology, but at present I stand upon my feet and say I see no necessity for any apology at all, or any excuse. I have given an explanation of the matter which is perfectly clear, and if the College of Surgeons of Edinburgh had read these papers with accuracy and thought, they would have seen the explanation, and known that it could not be presented. It was only passed by the Council in July, and it was presented to this General Council when the Report of the Inspector was sent to them. All the suggestions you made in your Report have been made here, and made before your criticisms occurred. This has all been under the consideration of the Committee appointed for the purpose for the last year and a half or two years. I trust I have made my position fairly clear to the Council, and that I am cleared of any charge of want of courtesy.

Mr. Brudenell Carter: As a member of the Dental Examination Committee, I come fresh from the consideration of the report which Mr. Bryant has just defended, and I find on this table a report from another Committee—the General Examination Committee—of which I have ceased to be a member, and which contains this passage: "The General Medical Council—is well aware that it is a very serious matter to urge new and possibly subversive recommendations with too frequent recurrence upon the several examining bodies, who are entitled to adopt their own curriculum and methods." Now that seems to me to cover this.

Dr. Heron Watson: By whom is that signed?

Mr. Carter: It is signed by Sir Dyce Duckworth.

Dr. Heron Watson: Quite so.

Mr. Carter: This was before us yesterday, and although it was subjected to some criticism, and was ultimately referred back for further consideration on certain points, this particular passage seemed to be universally accepted—at least, no one made any hostile comment upon it. It seems to me to lay down what has been the principle acted upon by the Council in times past, and I would further say that nothing could be more disastrous than any attempt on the part of this Council to lay down a very hard-and-fast line of rigid uniformity with regard to matters of this kind. It seems to me that a certain liberty, a certain elasticity, in matters of this sort is essential to vitality, and that if we endeavour to crystallise and compress the operations of all our Licensing Bodies in precisely the same moulds and patterns, we shall lose in vitality far more than we are likely to gain. I see not the slightest objection to Dr. Watson's motion, and I am not going to oppose it.

Sir William Turner: As the seconder of this motion, I should like to say a word about it, because I think there are two very simple things that the Council is asked to do. One is to insert upon its minutes a letter from the Secretary of the Royal College of Surgeons, Edinburgh. I do not think this Council will refuse to enter that letter upon its minutes. There is, perhaps, one word in the penultimate line of the motion which Dr. Watson would, perhaps, not object to have altered, and that is the word "requirements." I think if that were altered to the word "recommendations," it would remove a difficulty which I understand Sir Dyce Duckworth feels, and I really do not see why the Council should not agree to the resolution. What we are really asking is that every medical authority shall, from time to time, when required by the General Medical Council, furnish such Council with such information as such Council may require as to the course of study and examinations to be gone through in order to obtain such certificates as are in this Act mentioned, and generally as to the requisites for obtaining such certificates.

Dr. Thorne Thorne: I think we should simplify matters if we accepted Sir William Turner's suggestion, and limited the demands to two points. But if so, we must take out the first ten lines of No. 2, and begin "This Council do now instruct the Registrar," &c. That would take the sting out of the whole thing.

Sir William Turner: Dr. Heron Watson and I have conferred on this matter, and I would suggest, sir, that you should first put to the Council No. 1. of Dr. Watson's motion, that asks that the letter from the College of Surgeons of Edinburgh be received and placed on the minutes.

This was agreed to.

Sir William Turner: Acting upon the suggestion of Dr. Thorne Thorne, the second part of the motion will now run as follows: "That the Council do now instruct the Registrar that he shall in each year apply in writing to each of the Bodies granting Dental Diplomas or Certificates, requiring it to furnish to the Council, before its May Meeting in accordance with the provisions of Section 22 of the Dental Act, 1878, such details of its existing regulations under which it grants a diploma or a certificate to practise dentistry or dental surgery as shall enable this Council to determine how far these regulations conform to the existing recommendations of the Council."

The motion, as altered, was agreed to.

Application of Mr. A. P. Merrill.

That the following further communications in regard to the application of Mr. A. P. Merrill for registration as a dentist from (*a*) the Privy Council Office, (*b*) E. Joske, Mr. Merrill's solicitor, together with (*c*) Observations prepared in reply, were before the Council :—

[On the previous consideration of Mr. Merrill's application* by the General Council on June 8, 1896, the following resolution was passed (Minutes, vol. xxxiii., p. 77) :—

"That the observations prepared by the Council's legal adviser on the petition of Mr. Alfred Perkin Merrill, be adopted by the Council and forwarded to Her Majesty's Privy Council as the answer of the Council to his appeal."]

(*a*) From the Privy Council Office.

"Privy Council Office, Whitehall,
"*September* 21, 1896.

"Sir,—With reference to your letter of June 18 last respecting the case of Mr. A. P. Merrill, a dentist practising at Melbourne, who appealed to the Privy Council against a decision of the General Medical Council not to place his name on the Dentists' Register, I am directed by the Lords of the Council to transmit to you, to be laid before the General Medical Council, the accompanying copies of affidavits, in support of Mr. Merrill's application to be registered in this country, which have been received from his legal representative in Melbourne, and I am to request that you will move the General Medical Council to favour their Lordships with any further observations they may have to make on the case.

"I am, Sir,
"Your obedient servant,
"J. H. HARRISON.

"*The* Registrar *of the*
"General Medical Council."

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* Journal of the British Dental Association, p. 355, vol. xvii.

AFFIDAVITS ENCLOSED.

(i.) By ALFRED PERKIN MERRILL.

" In the application of ALFRED PERKIN MERRILL for Registration as a Dentist in the United Kingdom.

" I, ALFRED PERKIN MERRILL, D.D.S., Dentist, of 52, Collins Street East, Melbourne, in the Colony of Victoria, make oath and say :—

"(1) That to obtain my Diploma of Doctor of Dental Surgery of the Philadelphia College, U.S.A., I attended in the years 1865 and 1866 of that College courses of lectures on Anatomy, Physiology, Surgery and Surgical Anatomy, and Medicine, and passed the necessary Examinations therein. And that I further attended the course of Dissections. And that before attending at the College and obtaining my Diploma, I was a dental pupil of an English dentist, viz., Mr. H. Munro, in Barbados, in the British West Indies, in the year 1863.

"(2) That I was a full life professor on Dental Histology in the North Western Dental College, Chicago, but I resigned this position on account of ill health. I also lectured in the New York Medical Colleges on Pathology and special Dental subjects.

"(3) That previous to obtaining my diploma in the year 1866 I was practising as a Dentist in the British Colonies, viz., in Barbados, in the year 1864. That during the previous year, viz., 1863, I was a *bonâ fide* dental pupil in Barbados, of Mr. H. Munro, who was an Englishman, an English dentist, whose application for registration as a dentist in Great Britain would have been approved of by the Medical Council if it had been made prior to the year 1878, and who was also a D.D.S. of America. That in consideration of the said H. Munro thoroughly teaching me the practice of dentistry in all its branches, I paid him the sum of one hundred pounds, although articles of indenture were not drawn out, because it was not customary in those days to draw out articles of indenture.

"(4) That if the General Medical Council decline to register me on the strength of my Diploma and Victorian registration, I claim to be entitled to registration under Section 37 of the Dentists Act, 1878, which provides for cases of certain Dental Students, within which I maintain that my case legitimately comes.

"ALFRED PERKIN MERRILL.

" Sworn before me this 18th day of August, 1896, at the City of Melbourne, in the Colony of Victoria,

" ROB. HADEN SMITH,
"A Commissioner of the Supreme
Court of the Colony of Victoria for taking
affidavits."

(ii.) By EDWARD TROWBRIDGE.

"In the matter of the Application of ALFRED PERKIN MERRILL for Registration in the United Kingdom.

"I, EDWARD TROWBRIDGE, American Indentor, now of Melbourne, son of Edward Trowbridge, who was the United States Consul in Barbados in the British West Indies from the year 1861 to the year 1870, and who died in the year 1877, make oath and say :—

"That I resided in Barbados with my father from the year 1861 to the year 1869.

"That during those years I was acquainted with the above-named Alfred Perkin Merrill.

"That I knew that he was the dental pupil of H. Munro, an English Surgeon Dentist, during the year 1863.

"And subsequently in the year 1864 he was associated as partner with the said H. Munro, and practised with him in the Roebuck. At the end of 1864, or beginning of 1865 he left Barbados to go to South America.

"My father, the American Consul, was well acquainted with Alfred Perkin Merrill, and I frequently heard him speak most favourably of him.

"EDW. TROWBRIDGE.

"Sworn at the City of Melbourne in the Colony of Victoria, this 18th day of August, 1896, before me,

"ROB. HADEN SMITH,
"A Commissioner of the Supreme Court of the Colony of Victoria for taking affidavits."

(*b*) From E. JOSKE, Mr. MERRILL'S SOLICITOR.

"Widows' Fund Buildings,
"454, Collins Street, Melbourne,
"*August* 18, 1896.

"DEAR SIR,—As solicitor for Mr. A. P. Merrill, D.D.S., I have the honour herewith to transmit to you copies of further affidavits, which have been forwarded to the Privy Council in connection with his application.

"My client contends that he is entitled in any case to registration in the United Kingdom under Section 37 of the Act, and I trust that the Privy Council and the General Medical Council will also adopt this view.

"I have the honour to be, sir,
"Your most obedient servant,
"ERNEST JOSKE,
"*Solicitor for the said A. P. Merrill.*

"Mr. W. J. C. MILLER,
"*Registrar of the General Medical Council.*"

(*c*) OBSERVATIONS IN REPLY, BY THE COUNCIL'S LEGAL ADVISER.

"*Re* A. P. MERRILL.

"Observations of the General Medical Council on the further affidavits submitted to the Lords of the Privy Council by Mr. Merrill in support of his appeal.

"(1) Mr. MERRILL, in his further affidavits, bases his claim to be registered in the Dentists' Register on three distinct grounds, namely :

"First, that he is entitled to registration as a Foreign Dentist under Section 9 of the Dentists Act, 1878, as holder of a recognised certificate granted in a foreign country.

"Secondly, that he is entitled to registration as a Colonial Dentist under Section 8 of the Act as holder of a recognised certificate granted in a British possession.

"Thirdly, that he is entitled, under Section 37, as a person who was articled as a Dental Pupil, and whose articles expired before January 1, 1880.

"(2) As regards a person who claims registration under Sections 8 and 9 of the Act as possessor of a colonial or foreign diploma, the Act provides in Section 10 that if a person is refused registration as a Colonial Dentist or as a Foreign Dentist, on the ground that the certificate held or obtained by him is not a recognised certificate as defined in the Act, the person may appeal to the Privy Council, and the Privy Council, after hearing the General Council, may dismiss the appeal, or may order the General Council to recognise such certificate.

"As regards a person who claims registration under Section 37 as having been an articled Dental Pupil, the Act does not provide for any appeal to the Privy Council from a refusal of the General Medical Council to register a person under that section. An appeal to the Privy Council lies (it is respectfully submitted) only from a refusal to recognise a foreign or colonial certificate, and the General Medical Council submit that the claim of Mr. Merrill to be registered under Section 37 cannot be the subject of an appeal to the Privy Council, and that the Act has not conferred on the Privy Council any jurisdiction to order the General Medical Council to register a person who has been refused registration under that section.

"(3) As regards the appeal of Mr. Merrill against the refusal of the General Medical Council to recognise his American Diploma, the General Medical Council have already fully stated to their Lordships the reasons for their opinion that the course of study and examinations which have to be gone through at the institution from which Mr. Merrill obtained his diploma are not such as to secure the possession by persons obtaining the diploma of the requisite knowledge and skill for the efficient practice of Dentistry, and the further facts stated by Mr. Merrill have not altered the opinion of the General Council. It appears from Mr. Merrill's affidavit that the course of study at the Philadelphia College lasted only two years.

"(4) As regards the refusal of the General Medical Council to recognise the certificate of registration in the Dentists' Register of Victoria, the General Medical Council have only to repeat that in their opinion the certificate of registration in the Victoria Register of a Dentist who is so registered, simply as having been in practice in the year 1887, and without any Dental Diploma, is not such a certificate as the General Medical Council have been able to recognise as furnishing sufficient guarantees of the possession by the applicant of the requisite knowledge and skill for the efficient practice of Dentistry and Dental Surgery.

"(5) As regards the claim of Mr. Merrill to be registered under Section 37, the General Medical Council, as already stated, respectfully submit that such claim is not properly the subject of an appeal to the Lords of the Privy Council.

"But for their Lordships' information the General Medical Council beg respectfully to state that the grounds on which they decline to register Mr. Merrill under that section are as follows:—

"The Act defines in Section 6 the persons who are entitled to registration as persons who possess a Dental Diploma, and persons who were at the passing of the Act *bona fide* engaged in dental practice; and in Section 7 the Act provides that a person shall not be entitled to be registered as having, at the passing of the Act, been engaged in the practice of Dentistry unless he transmits to the Registrar the prescribed information and declaration before August 1, 1879. The 37th Section of the Act provides that a person who is an articled pupil as described in the section shall, if his Articles expire before January 1, 1880, be entitled to be registered under the Act as though he had been in *bona fide* practice before the passing of the Act, and that the General Medical Council may by special order dispense with such of the statutory conditions of registration if they think fit in favour of dental students.

"The General Medical Council are advised that the 37th Section applies to persons who were articled pupils, or dental students, at the date of the passing of the Act, and not to persons whose articles or period of studentship had expired long before the Act was passed. As regards a person of the latter class, if he had continued to practise and was in practice at the date of the passing of the Act, he would be entitled to registration under Sections 6 and 7, and should have applied for registration on or before August 1, 1879; and if he was not in practice at the time the Act was passed, the General Medical Council are advised that he was not a person entitled to registration. A contrary construction of the Act would place students who had possibly taken to other occupations in a more favourable position than *bonâ fide* practitioners.

"The General Medical Council are further advised that the three classes of persons on whom the Act intended to confer the right to registration were:—

(1) Holders of Diplomas,
(2) *Bona fide* Practitioners,
(3) Certain Students,

and that it was the intention that the two latter classes should be ascertained on or before August 1, 1879, and should not be registered after that date (except in the case of students) by special order.

"This is the view of the Act which the General Medical Council has adopted in regard to applications by candidates for registration under Section 37, many of whom have been registered under special orders made under that section.

"In the present case Mr. Merrill states that he was a Dental Pupil to an English Dentist in 1863, that is to say, fifteen years before the passing of the Act, and the General Medical Council are advised and respectfully submit that he is therefore not entitled to claim registration under Section 37 of the Act."

FURTHER COMMUNICATION FROM THE PRIVY COUNCIL OFFICE.

"77958. "Privy Council Office, Whitehall,
"*November* 21, 1896.

"SIR,—Referring to my letter of September 21 last, on the subject of the appeal of Mr. A. P. Merrill against a decision of the General Medical Council not to place his name on the Dentists' Register and, to previous correspondence on the same subject, I am directed by the Lords of the Council to transmit to you, to be laid before the General Medical Council, the accompanying declaration of Mr. W. E. Royce in support of the Appellant's case, which has been forwarded to this office by Mr. Merrill's solicitors.

"I am to request that this document may be returned ultimately to this Office.

"I am, sir,
"Your obedient servant,

"*The* REGISTRAR *of the*
"GENERAL MEDICAL COUNCIL." "C. L. PEEL.

"IN THE PRIVY COUNCIL.
"*Re* ALFRED PERKIN MERRILL.

"Further evidence in support of Mr. A. P. Merrill's petition to be placed on the British Dental Register.

"I, WALDO ELMORE ROYCE, of 2, Lonsdale Gardens, Tunbridge Wells, in the County of Kent, Graduate of the Philadelphia Dental College, United States of America, solemnly and sincerely declare as follows:

"(1) I have perused a copy of the petition of Alfred Perkin Merrill to the Privy Council, dated Nineteenth day of January, One thousand eight hundred and ninety-six. Also a copy of the affidavit made by the said Alfred Perkin Merrill accompanying the above petition, and sworn on the Twentieth day of February, One thousand eight hundred and ninety-six. I have also perused a copy of observations in reply to such petition and affidavit made by the General Council's legal adviser, and dated the Twentieth day of March, One thousand eight hundred and ninety-six.

"(2) In reference to the above observations, it would appear that the General Medical Council declined to register the said Alfred Perkin Merrill for three reasons, namely:—(1) a Preliminary Examination was not required; (2) only two years of Professional Study were required, and (3) the Final Examination was conducted solely by the Teachers and Officers of the College. In other words, the application was refused because thirty years ago the requirements of the Philadelphia Dental College were not identical with the present-day requirements of the General Medical Council.

"(3) It should be remembered that in One thousand eight hundred and sixty-six (the year in which Appellant obtained his Diploma), and even so late as One thousand eight hundred and seventy-eight, no examination of any kind was required in order to practise Dentistry in England. The Philadelphia Dental College, in the same way as various English Dental Institutions, was not so advanced in the year One thousand eight hundred and seventy-eight as it is now, but it has kept pace with the requirements of the age since that date in the same way as English institutions of a like kind. As regards the particular objections taken by the General Medical Council and specified above as (1), (2), and (3), I would lay particular stress on the fact that the said Alfred Perkin Merrill, having commenced his dental studies before One thousand eight hundred and seventy-eight, entitles him to register now as a Dental Student in England, which would at once do away with the necessity of his passing any Preliminary Examination to enter any British Dental School. I therefore submit the General Medical Council can take no substantial objection to him on the ground that he did not pass any Preliminary Examination before commencing his dental studies so long ago as prior to the year One thousand eight hundred and seventy-eight.

"(4) As regards the second ground of objection, namely, that two years only of professional study were required at the Philadelphia Dental College, it is true that the said College only required this period of time in One thousand eight hundred and seventy-eight, but the said College now requires three years' study in the College, whilst there is no College or School in Great Britain that requires more than two years. The statement in the said observations that in the United Kingdom four years of professional study is required is most misleading as to the amount of work actually required. Two years only of this time are spent in a Dental School. The other two years are supposed to be spent with some Registered Dentist, but as the Student is not examined upon the work done during his Apprenticeship, the period of Apprenticeship may be, and frequently is, spent with some inefficient man; *exempli gratiâ*, a chemist or other individual who has got on the Register with no real qualifications, but under the privileges given before the Register was closed on the twenty-second day of July, One thousand eight hundred and seventy-eight, to such individual; or again, the Student may give no actual time or study during the period of Apprenticeship, even with a competent man, for if the supposed master is willing, as it is called, to 'sign up' the Student as having been with him for a definite period, that is accepted as satisfactory, though it is not necessarily the truth. Moreover, there is a system of 'antedating' practised by the General Medical Council by which the period of Apprenticeship is often much reduced and time is reckoned to count in the period of Apprenticeship which never was so spent. This system is so much in vogue that Students are sometimes asked, when presenting themselves for registration, if they wish to be antedated for six months, a year or more. Thus it will be seen that the supposed two years of Apprenticeship may be, and I believe often is, a mere farce, and the whole period of study compares most unfavourably with the three years which a Student in the Philadelphia Dental College must actually spend in the College, and be engaged in real *bona fide* work when there.

"(5) As to the third and last objection, namely, because the Teachers of the Students were themselves the Examiners, I would say that the General Medical Council may easily satisfy themselves by making proper inquiries that the Tutors and Teachers of the Philadelphia Dental College were, and are, men of the highest reputation for ability in their profession and integrity of character, and in fact that they stand, and always have stood, at the very top of their profession in the United States of America. It was accordingly considered that such Tutors and Teachers, who had known and watched Students under their care for some years previous, were better able to judge than any strangers when they (the Students) were fit to receive a Diploma to practise. It is difficult to understand why this objection was taken, as the method of examination adopted is not only universal in the United States, but is also common in England. In fact, the Board of Dental Examiners in London is very largely composed of Teachers and Officers from the London Dental Schools. The Philadelphia Dental College belongs to the National Association of Dental Faculties, and its rules and examinations must conform to the requirements of that Association. Its Diploma is as universally recognised as that of any Dental School in the world.

"And I make this solemn Declaration conscientiously believing the same to be true, and by virtue of the Statutory Declaration Act, 1835.

"WALDO ELMORE ROYCE.

"Declared by the above-named Waldo Elmore Royce, of Tunbridge Wells, in the County of Kent, this 20th day of November, 1896, before me, "ALFRED THOS. SIMPSON,
"A Commissioner for Oaths."

On the motion of Dr. MacAlister, seconded by Sir William Turner, the following was agreed to:—

"That Mr. Muir Mackenzie be instructed to prepare for transmission to the Privy Council a formal reply to the documents transmitted in the case of Mr. Merrill, in the sense of the observations on p. 152 of these minutes.*

The Odontological Society of Great Britain.

The ordinary monthly meeting of the above Society was held on the 7th inst., Mr. R. H. WOODHOUSE (the President) occupying the chair.

The PRESIDENT opened the meeting by briefly referring to the loss sustained by the Society by the death of Sir Benjamin Ward Richardson, and stated that the Council had desired the secretaries and himself to write a letter of condolence to Lady Richardson.

The minutes of the previous meeting having been read and confirmed, Messrs. F. Lawson, Dodd and Harold Dewe Mathews signed the Obligation Book, and were admitted as members.

The following gentlemen were proposed as members of the Society:—

Wilfred William Gabell, L.D.S.Eng., Chiltern Villa, Station Road, New Barnet; A. T. Hilder, L.D.S.Eng., 83, Edmund Street, Birmingham; and John George Wallis, L.D.S.I. and Glasg., 33, Albion Street, Hull (*as non-Resident Members*). Alick Condell Strand, M.R.C.S.Eng., L.R.C.P.Lond., L.D.S.Eng., Helenslea, Child's Hill, N.W. (*as a Resident Member*).

The LIBRARIAN (Mr. W. A. Maggs) reported, in addition to the usual periodicals, the receipt of Mr. J. F. Colyer's work on "The Extraction of the Teeth."

The CURATOR (Mr. Storer Bennett) exhibited a lower jaw, presented to the Museum by Mr. Horace Farebrother. It was dug up near old Sarum, and was supposed to have belonged to an Anglo-Saxon about 547 A.D. The dental arches were very well developed, the teeth well formed, and there was absolutely no trace of caries. The wisdom teeth were somewhat misplaced.

Mr. HARDING mentioned "Formalin" as an antiseptic in the treatment of septic root canals. He used it in the proportion of 1 in 5, and considered it to be a very powerful germicide. It was not at all poisonous, and would not decompose.

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* See Resolution of the General Medical Council, passed June 8, 1896, and referred to on page 810 of this issue.

Mr. STORER BENNETT said "Formalin" produced so burning a sensation on the gum and soft tissues that he doubted whether it could be used as a pulp dressing. It was, however, exceedingly useful in hardening tissues for making microscopic sections. In twenty-four hours it would harden a tissue as large as the eye sufficiently to make a section through all the coats without displacing any of them. For microscopic work a 4 per cent. solution was sufficient.

Mr. HARDING said he did not use Formalin for gum or soft tissue treatment, but purely as a germicide in septic roots.

A communication on "Electric Annealing of Gold," from Mr. P. Hy. Poinsot was read by Mr. Baldwin.

Mr. J. H. REDMAN brought forward an interesting case of retarded dentition. The patient, when first seen six years ago was 20, and only had one canine, one bicuspid, and eight molars present out of the permanent dentition. Dentures were inserted, and after a period of six months a swelling appeared on the left side of the upper jaw in the region of the central incisor. Examination of this showed the presence of a malformed tooth, which, however, failed to erupt. The patient after this remained comfortable until six months ago, when she began to suffer from severe attacks of neuralgia. A swelling had also appeared well up under the lip at the base of the nose, and this, on examination, proved to be one of the missing teeth. Whilst under the influence of the anæsthetic, the lower jaw was also examined, with the result that two incisors and a canine were removed, all being very irregularly placed. The mother of the patient was 50 before the bicuspids in the right side of the lower jaw made their appearance, and a cousin of the father had also missing teeth in the bicuspid region of the upper jaw. In reply to questions by several members, Mr. Redman said he had endeavoured to utilise the *x* rays, but miserably failed. From what he could gather from the patient's mother, he believed the deciduous teeth came out about the usual time and in the usual order. The patient was somewhat stunted in growth, but there was no appearance of rickets.

Mr. SIDNEY SPOKES exhibited several lantern slides taken from specimens in University College and other Museums. The two first slides illustrated what might be expected to happen when a portion of the mandible was removed. The next slide showed how long-continued pressure from within had caused the anterior part of the mandible to be misshapen, in consequence of an erectile tumour of the tongue. The anterior half of the jaw was depressed, part of the alveolar process had been absorbed, and the incisor and canine teeth pointed directly forward. Two or three slides were also shown illustrating the destructive effects of necrosis of the bones of the face and skull. Another slide was that of a skull showing the right upper canine to have erupted obliquely into the nostril, with the crown resting against the septum. Mr. Spokes also exhibited two slides of specimens removed by Mr. Liston. One was the left ramus of a mandible, with an adjoining part of the body about two inches in length, a part of the body of the jaw being expanded by the growth of a small myeloid tumour. The other was a part of the right half of a mandible behind the canine tooth, in which the ramus and body of the jaw, as far forward as the second bicuspid tooth, had been enormously expanded by the growth of a tumour probably of a cystic character.

Mr. J. F. Colyer read a paper on "Open Bite." For the purpose of description he divided cases of "open bite" into two classes:—

(1) Cases where the bicuspids and the molars occlude, but the cutting edges of the upper and lower anterior teeth are separated from one another by a space more or less oval in shape.

(2) Cases where not only the anterior teeth, but the majority of the posterior teeth, fail to occlude.

In referring to the question of etiology, he stated that in cases coming under Class I. the deformity was invariably the result of some acquired habit, such as thumb or finger sucking, the child bending the thumb or finger, as the case may be, and inserting it, in a horizontal manner, between the cutting edges of the upper and lower teeth. The pressure thus exerted forces the superior teeth, and at the same time the alveolar process, in a direction upwards and slightly outwards. In the lower the teeth are forced downwards, but the displacement was nothing like so well marked as in the upper.

In cases coming under Class II., the etiology was, he thought, frequently obscure. In a few instances the use of regulation plates could be traced as the cause of mischief. In many cases, the chief cause of trouble lay in some defective development of the ascending ramus. In some cases the defect was probably an increased obliquity of the ramus, as shown by Mr. Tomes in his "Dental Surgery." In many cases, the defective development of the ascending ramus was an actual arrest in growth, namely, a "shortening." He also mentioned that in some cases he had observed a somewhat sharp bend downwards of the horizontal ramus of the mandible about the position where the most anterior fibres of the masseter are inserted. A few cases of "open bite" can be traced to an arrest in development of the anterior portion of the maxilla, and this condition was also frequently combined with the defective development of the ascending ramus already alluded to. The presence of "honeycombed" teeth was to be frequently noted in cases of "open bite," and this condition was invariably accompanied by an arrest in development of the superior alveolar process. In the majority of cases the palate was unusually high and the patients were mouth breathers.

Treatment.—For the *treatment* of "open bite" Mr. Colyer remarked it was impossible to lay down any hard and fast rules, as each case must be treated on its own merits.

With regard to Class I. In cases seen at an early age, before the eruption of the permanent teeth, much may be done by breaking the child of any vicious habit it may have acquired, and with the eruption of the permanent teeth the condition will be, to some extent, improved, and the best advice was invariably to leave well alone. It was well during this period to advise the use of a skull and chin cap. In cases where the habit of thumb-sucking, &c., has been continued during the eruption of the second dentition, or where the deformity is severe, treatment is of little avail. Where the personal appearance is of great importance, for example, in young girls, the crowning of the six upper anterior teeth might be called for. In a very severe case this would hardly be practical, and under such conditions the best line of treatment to pursue would be to remove the anterior teeth, and insert a continuous gum denture.

The treatment of cases coming under Class II. was considered under the following headings :—(1) Removal of adenoid and enlarged tonsils ; (2) the use of the skull and chin cap ; (3) the removal of teeth ; (4) cutting in the bite ; (5) a combination of the above.

(1) *Removal of Adenoids and Enlarged Tonsils.*—The removal of adenoids, enlarged tonsils, or any other cause of nasal obstruction, was advised for the following reasons :—(*a*) Nasal obstruction may be one of the causes producing open bite; (*b*) the removal of adenoids and enlarged tonsils is always productive of beneficial results to the patient as far as general health and nutrition are concerned.

(2) *The use of the Skull and Chin Cap.*—The skull and chin cap which is strongly recommended by some was, in the author's opinion, only applicable in cases where the deformity was slight. For success by this method, the apparatus must be constantly worn, and, in addition, must be properly adapted, care being taken that the elastic bands stretching between the chin and skull caps exert pressure in an upward and not a backward direction.

(3) *The Removal of Teeth.*—The extraction of the second molars was quite sufficient to remedy some examples of open bite, and the majority of cases, he thought, were greatly benefited by pursuing such treatment. Where the second molars were sound, and first molars unsavable, the extraction of second molars was hardly justifiable if other methods could be resorted to. Under such conditions the treatment most likely to lead to beneficial results was to remove the remains of the first molars, and employ the skull and chin cap, and to follow this up by the operation of "cutting in the bite." In very severe cases it might be necessary to resort to the extraction of a large number of teeth, as in the case recorded by Mr. H. Rose in the JOURNAL OF THE BRITISH DENTAL ASSOCIATION for November, 1896. In this patient the whole of the teeth were removed and dentures substituted with beneficial results.

(4) *Cutting in the Bite.*—This method consists in grinding down the teeth until the bicuspids and the molars articulate. It possesses

the advantage of (i.) giving the patient a good surface for mastication (ii.) being permanent; with teeth forced down by the skull and chin cap, there is a tendency for them to rise again directly the apparatus is thrown aside ; (iii.) the patient is not put through a long and tedious line of treatment.

The operation should extend over several sittings, and for preference a fairly long period of time. In one case—the models of which were shown—the treatment was spread over the period of one year. The advantage of having a good space of time between each sitting is, that any irritability of the pulp caused by the operation could subside, and time is allowed for the probable formation of secondary dentine ; in this way more tooth structure can be removed than would be the case if a shorter period of time were allowed. The cut surfaces of the teeth should be polished after each sitting, and the patients directed to apply some spirits of wine to them twice a day, and the necessity impressed upon them of first drying the surfaces of the teeth, and keeping them free from saliva for about a minute after the spirit has been applied. By this plan the cut surface of the dentine is to a certain extent hardened, and any sensitiveness that may exist is allayed.

(5) *Combination of Methods.*—In very many cases where a single line of treatment was insufficient to produce a good result, a combination of methods was recommended. In many such cases the method the author usually pursued was :—

(1) To extract the first permanent molars.

(2) To use a skull and chin cap for a period of perhaps six to twelve months, namely, during the period the second permanent molars are moving forward in the gap caused by the removal of the first permanent molars. The arch should be expanded if necessary.

(3) To "cut in the bite" if the skull and chin cap is not sufficient to bring the jaws together.

Mr. CURNOCK mentioned the case of a boy of 12 or 13, in which only the posterior part of the second molar articulated ; the first permanent molars, being badly decayed, were extracted. He then waited for a time to see what would happen, and at the end of a year found that the twelve-year-old molars had come well forward, and that the "open bite" was perfectly cured ; so much so, that one of the laterals would have to be regulated to get it over the bite. He considered that though the extraction of the first molar produced such a result as in the case mentioned, dentists should think twice before extracting such teeth, for though in that case it produced a desirable result, it might, if done thoughtlessly and heedlessly, produce equally undesirable results.

Mr. H. G. READ said he had had two cases recently, in which the bicuspids and molars on one side had failed to articulate. In one case the first molars were absent, and there was a wide space between the second bicuspids and second molars. The third molars and the first bicuspids articulated. He found that the space was too much to be cured by crowning the molars and bicuspids in one jaw only, so he had to crown both the upper and lower, and he brought the crowns up so as to cover the space due to the extraction of the two first molars. The other case was somewhat similar. He had now under treatment a young lady who applied to him about five years ago for treatment of open bite. He tried the skull cap and chin cap and elastic bands, but he could not get her to wear them night and day. He lost sight of her for a time, and when she returned her mouth was in a very bad state. Two or three molars had to be extracted, and the extreme corners of the upper second and lower molar were just touching.

Mr. REDMAN mentioned the case of four sisters having open bite. They had enlarged tonsils, and were mouth breathers, and he attributed the deformity entirely to that fact. The teeth were honeycombed and in a most miserable condition. No doubt he would be able to make good mouths by cutting in of the bite and crowning, as Mr. Colyer had suggested.

Mr. STORER BENNETT considered that the anatomical slide exhibited seemed to point to a little weakness in the argument brought forward by Mr. Colyer. According to Mr. Colyer's explanation, the bending of the lower jaw ought to take place much more forward than it did in the specimen shown. Again, Mr. Colyer had said that the drawing up of the back part by the masseter muscles, and the drawing down of the anterior part by the muscles employed in opening the jaws, would induce a downward growth of the lower jaw. If that were the case, a symmetrical bending down of the jaw would be expected, but in the specimen the open bite extended as far back as the front of the second molar in the lower jaw to the canine on the other side. In the specimen it was absolutely an asymmetrical position. He did not for one moment state that Mr. Colyer's explanation was not a correct one, but only that the slide did not bear out that explanation.

Mr. MAIN NICOL said that in most cases the obstruction to occlusion was caused only by the antagonism of the second molar, but the second molar, as Mr. Colyer had pointed out, seemed to be situated on a kind of rising up of the jaw. It appeared to him that a likely cause was crowding of the jaw, in which not the anterior but the posterior teeth suffered, so that the second molar erupted in a position very similar to that of a wisdom tooth.

Mr. ROBBINS, referring to Mr. Curnock's case, said that if Mr. Curnock got his case perfectly right without grinding down the cusps of the teeth, he thought the proper space must have been obtained by the tilting forward of the twelve-year-old molars. If that were so, he (Mr. Robbins) would be rather inclined to cut down the bite and apply nitrate of silver.

Mr. CURNOCK said the teeth did come very considerably forward, but there was not that amount of tilting so often seen when the first permanent molars have been taken out.

Mr. BALDWIN explained that although he was the first to import the term "open bite" into English, he was not the inventor, as Mr. Colyer had suggested, that honour belonging, he thought, to Herr Schmidt.

Mr. CUNNINGHAM deprecated founding any conclusions upon the anatomical model shown on the screen, because it was only a photograph of a wood engraving, and the position of the notch might be due solely to the engraver, and not exist in the specimen itself. While discussing the problem with regard to the bone itself, he thought it would be well to have some regard to the problem of the forces compounded by the teeth, which was one of the really complex points dentists had to deal with, and which was the foundation of all scientific treatment of irregularity. The cases of open bite he had had to treat had been very few, and had been treated entirely by the cutting-down process. The time occupied in cutting down depended largely upon the mental power of the operator over the patient, and the desire of the patient to get the work done; nitrate of silver he considered to be better than spirits of wine.

Mr. WHITTAKER thought that one cause of open bite had been overlooked, viz., the decay of the temporary teeth. Patients got tender temporary teeth and were afraid to bite close together; they did not masticate properly, and consequently the first permanent molar rose in its socket and became longer. He had noticed on several occasions that when the first permanent molars were taken out, the second molars travelled forward, more particularly the upper molar, and the bite was reduced.

Mr. J. F. COLYER, in reply, said the view he held with regard to the muscular action was founded on the cases that had come under his notice at the hospital, and it was quite by chance that he happened to come on the drawing in Mr. Tomes' book which seemed to illustrate the point. He constantly noticed in cases of open bite that curious bending down in the region where the masseter muscle was inserted. He did not see that Mr. Storer Bennett's remarks had affected his argument, because it was not at all necessary that the bending should take place in front of the anterior fibres of the masseter muscle. He could not attempt to answer all the points brought forward, but one curious thing struck him, namely, the small number of cases of open bite met with in private practice. Open bite was by no means an uncommon form of irregularity in hospital, but a somewhat rare one in private practice. Replying to Mr. Curnock, he stated that he had never adopted the radical treatment of cutting in the bite until he had tried the extraction of the first permanent molars, and the use of the skull and chin cap, but he found those methods were by no means always sufficient. With regard to what Mr. Redman had said, there could be little doubt that large tonsils and mouth breathing had something to do with open bite. They had, however, to take into consideration the large number of people they saw with nasal obstruction, who had not got open bite, so that there must be some other cause. He agreed with Mr. Robbins that nitrate of silver was the best thing to use. He nevertheless thought the patient should use spirits of wine, as he did not think nitrate of silver an altogether safe remedy in the hands of patients.

The PRESIDENT, in the name of the Society, thanked Mr. Colyer for his paper, and also the gentlemen who had brought forward casual communications; and in adjourning the Society to January 11, wished the members a happy Christmas and a prosperous New Year.

Dental Hospital of London.

THE Annual Dinner of the past and present students of the Dental Hospital of London was held on Saturday, December 5, at the Hotel Metropole, under the presidency of Mr. R. H. Woodhouse. The dinner proved to be a record one as far as numbers, for no less than 175 were present, including a goodly array of members of the medical and allied professions. The guests present were :—Drs. Patten, Washbourne, Montague Murray, Pasteur, Robt. Jones, Fletcher-Little; Capt. Barker, Surg.-Lieut. E. F. Drake-Brockman; Rev. J. E. Woodhouse; Messrs. Warner, Basil Holms, A. J. Woodhouse, W. M. Woodhouse, Glen Walker, Hall, Juler, Ernest Lane, Eastes, Bland Sutton, Hayward, Sidney Spokes, Hallett, Henry Morris, Sier, Trollope, Cooke, Redman, Dewey, and J. Smith Turner.

The toast list included, in addition to the usual loyal ones, that of "The Past and Present Students," proposed by the Chairman, replied to by Mr. Mummery on behalf of the past and Mr. R. L. Young on behalf of the present students. "The Hospital and School" was proposed by Mr. Henry Morris, and replied to by Mr. J. Smith Turner and Mr. Storer Bennett. The remaining toasts included that of "The "Visitors" and "The Chairman." During the evening an excellent selection of music was given under the direction of Mr. Herbert Schartau. Altogether the dinner was most enjoyable, and it is only want of space that prevents us from giving a fuller account.

National Dental Hospital.

THE annual dinner of the past and present students of the National Dental Hospital and College was held November 27, at the Holborn Restaurant. Mr. FREDERICK TREVES occupied the chair, and the company included Mr. J. Smith Turner, Mr. C. S. Tomes, Mr. Frederick Canton, Alderman Rymer, Mr. Spokes (Dean of the College), Mr. W. B. Paterson, Dr. A. Downes, Professor Herbert Spencer, Professor J. R. Bradford, Mr. S. J. Hutchinson, Dr. Robinson, Dr. William Hill, Mr. Alfred Smith, Mr. Frederick Rose, Mr. Brown-Thomas, Mr. George Cunningham and Dr. E. W. Roughton.

The CHAIRMAN, in giving the toast of the evening, "The National Dental Hospital and College," alluded to the disappearance of the old-fashioned dentist and the improved status of the modern dental practitioner as a specialist in a highly important branch of the art of surgery. In the perfection to which they had now brought their art the dentists had no more appreciative body of admirers and well-wishers than their friends, the surgeons. Medical men had to deal with no inconsiderable number of patients for whom the sole prescription necessary was a new set of teeth, and he thought it would be a great advantage to the public generally if the association between medical men and dentists became even closer than it was at the present time. With respect to the Dental Hospital and College, the valuable work carried on by that institution was universally recognised. The College possessed a teaching staff which itself furnished a guarantee of complete efficiency, and the School set before it the worthy aim, not so much to be big as to be good.

The DEAN (Mr. Spokes) responded to the toast, and said the hospital continued efficiently to discharge its work as a charitable institution while the status of the students who entered the dental profession left nothing to be desired.

The toast of "The Past and Present Students" was afterwards honoured; and before separating the company also pledged "The Health of the Visitors" and of "The Chairman."

To Sharpen Piano Wire Broaches.

The following method of sharpening piano wire broaches is given by Dr. H. H. Sullivan in *Items of Interest*. "After filing down in the usual way, place on your mandrel one coarse emery disc and one fine one with the grits facing each other; adjust mandrel in hand-piece to your engine, now hold the wire to be smoothed down to as fine a point as desired between the discs, and run engine at moderate speed, turning the wire from right to left that it will be true when finished."

Obituary.

Sir Benjamin Ward Richardson, M.D., F.R.S.

By the death of Sir Benjamin Ward Richardson, which took place on Saturday, November 21, an interesting personage has been removed from scientific and medical circles. Sir Benjamin was in his 69th year, and a few days previous to his decease he was attacked by apoplexy, and never regained consciousness. Few medical men are better known to the public, the interest he took in matters connected with public hygiene having brought his name prominently forward from time to time. His extraordinary versatility also drew him into varied assemblages, where his genial presence was invariably welcome; indeed, he was a man of wide interests and culture, and at all times a delightful companion.

Born in the Midland counties, he received his medical education in Glasgow, and took his M.D. degree at St. Andrews, two years later becoming a member of the Royal College of Physicians in England. In 1867 he was elected a Fellow of the Royal Society. For many years Sir Benjamin Richardson was President of the St. Andrews Medical Graduates' Association, that University, in 1877 conferring upon him the honorary degree of LL.D. His London *confrères* showed their appreciation by electing him President of the Medical Society of London; in 1893 he received the honour of knighthood.

So much has been written in the public and medical papers concerning his various experiments and achievements that it is needless here to attempt to recount them, but it is satisfactory to note that throughout his whole career he was deeply interested in the dental branch of the profession and had many attached friends amongst its practitioners. As far back as the year 1863 he was elected an honorary member of the Odontological Society of Great Britain; the *Transactions* of that Society contain various interesting communications from his pen, not the least important of these being a comparatively recent paper read before the Society on the subject of "Hæmorrhage following Tooth Extraction." As the inventor of the "ether spray," and from the keen interest he took in anæsthetics generally, he was naturally closely in touch with dental surgery, and in earlier years even a closer connection existed, for he was a lecturer and teacher in the short-lived Dental School, which flourished previously to the inauguration of the diploma in dental surgery granted by the Royal College of Surgeons of England.

Reviews and Notices of Books.

LA PHOTOMICROGRAPHIE, HISTOLOGIQUE ET BACTERIOLOGIQUE. Par J. CHOQUET. Paris: Charles Mendel, Editeur, 118 et 118*bis*, Rue D'Assas, 1897. (Tous droits réservés.)

THIS book will no doubt be welcomed by many scientific workers across the channel, as it is, the author says, the first work on photomicrography in the French language devoted especially to the study of histology and bacteriology. The book is clearly written and sufficiently elementary to be of great value to beginners in the art.

A large space is devoted to the description of various forms of apparatus, the author declaring himself as, on the whole, in favour of the horizontal in preference to the vertical forms. In this we quite agree with him, the risk of vibration and consequent imperfection of the negative being much greater with the vertical than with the rigid forms of horizontal apparatus. There is a good chapter on lenses, clearly describing the different improvements in objectives and oculars that have been such a boon to microscopists in late years. Elaborate descriptions are given of the different stages of focussing and adjusting the light and condenser, and of the precautions to be taken to prevent the effects of vibration.

The author gives a very useful table compiled by M. Monpillard, indicating what colour screens should be employed with variously coloured objects, and also what bath should be used to render the plates colour sensitive in each particular case.

In dealing with the difficult subject of the time of exposure, the author strongly recommends the use of the Warnerke sensitometer in preference to any other, but we fear that most of us who have done much work in photomicrography are more inclined to judge of exposure by the appearance of the object and by hardly earned experience than by the more elaborate methods described. There is a useful chapter on the different colouring agents to be employed in the staining of objects for the purpose of photography, and the subject of the development of the photomicrographic plate is fully entered into.

With regard to the illustrations, we think some of them can hardly do justice to M. Choquet's original negatives. Only one plate of photographs of bacteria is given, and these not of any great amplification—the photograph of bacterium coli appears to us not very clear or characteristic, and that of pneumococcus, although very sharp and clear, would, we venture to think, have been more effective if the object had been more highly magnified. The examples given do not, we imagine, exceed in amplification any greater diameter than five or six hundred; is it not also rather an omission that no indication of the magnification employed is given with the photographs.

The great difficulties in photomicrography begin when we have to deal with such lenses as the $\frac{1}{12}$ immersion, and amplifications of 1,000 or more; and although no doubt, from the evidence of his book, the author has done many such, he does not give us any examples. Some of the low power photographs are very well reproduced, especially that of the papillæ of the dog's stomach.

Our author pays a very graceful tribute to England for the high position which it holds in microscopical science.

The book is certainly a valuable addition to the literature of this interesting subject.

THE DENTAL SURGEON'S DAILY DIARY AND APPOINTMENT BOOK. London: John Bale & Sons, 85-89, Great Titchfield Street, W.; Claudius Ash & Sons, Limited, Broad Street, W.

This diary has now reached the fourth year of its publication, and may be safely said to have thoroughly established its value as an appointment book for the dental surgeon. The diary is modelled on the same plan as last year, namely, has a week at "an opening" and with the hour only printed. The front part of the book contains much useful information, especially with regard to the British Dental Association and other kindred societies. Altogether we cordially recommend the diary as the most useful one with which we are acquainted.

Miscellanea.

General Medical Council—Election of Direct Representatives: Result.

The result of the election for direct representatives for England on the General Medical Council is as follows:—The successful candidates are: Robert Reid Rentoul (Liverpool), 6,646; George Brown (London), 5,369, and James Grey Glover (London), 4,910. The unsuccessful candidates are: George Jackson (Plymouth), 4,082; Lovell Drage (Hatfield), 3,974; Samuel Woodcock (Manchester), 3,390; Walter Rivington (London), 2,752; Frederick Henry Alderson (London), 1,862; Thomas Michael Dolan (Halifax), 1,355, and Ebenezer Diver (Kenley, Surrey), 143.

The Dental Hospital of London.

The following has been forwarded to us by the Dean of the Dental Hospital of London:—

The members of our profession who so liberally subscribed towards the fund raised to build a new hospital will be interested to know that the plans for the building have been accepted, that Messrs. Young and Hall are to be the architects, and that as soon as the site can be cleared the building will be commenced. The plans can be seen in the Council Room of the Odontological Society by anybody who may wish to see them. The site of the new hospital is to be on a large area on the south side of the square, next to the present hospital, and is bounded on the north by Leicester Square, on the south by Long's Court, on the east by Green Street, and on the west by St. Martin's Street. It is intended that the new hospital shall be ready for occupation in eighteen months.

When the Committee purchased this site they did so relying upon the rents the houses would produce during a few years, to enable them to accumulate money for building. Recently the houses have been condemned as unsafe and unsanitary, and are now being demolished, consequently the authorities are compelled to begin building; this must necessarily involve the charity in considerable indebtedness, towards defraying which, help is most seriously asked.

The new hospital will be a structural alteration that will greatly improve the appearance and sanitation of that part of London. It is possible therefore to appeal for funds for three reasons: (1) The usefulness of the charity; (2) The Committee has to build before it is prepared to do so, because the houses have to be pulled down; (3)

The building of the hospital will in every respect improve a part of London which much needed it, and has enabled the parish to improve the Green Street corner, which was one of the most dangerous ones in London.

The Committee of Management will be most grateful for any pecuniary help; perhaps some members of our profession may be able to influence others to bestow their charity upon our deserving institution.

MORTON SMALE, *Dean.*

The Dental Hospital, Leicester Square.

Birmingham Dental Students' Society.

The following are the Officers of the Society for the ensuing year:—President, J. Dencer Whittles; President-Elect, A. T. Hilder; Ex-President, Percy T. Naden; Treasurer, A. W. Shedden; Secretary, H. Percy Joscelyne; Committee, C. C. Wood, E. E. Turner, C. H. Howkins.

The list of papers promised are as follows:—A. W. Shedden, "The Advisability of Taking the Double Curriculum"; G. F. Cale-Matthews, "My Experiences at the L.D.S. Examination"; R. W. Griffin, "Notes on the Metals used in Dentistry"; H. Percy Joscelyne, "Amalgams: When and How to use them"; C. H. Howkins, "Vulcanite and Vulcanizing"; S. Willis, "A Few Hints suggested during Two Years of Hospital Practice"; A. H. Parrott, "Anæsthesia"; H. G. Paterson, "The Treatment of Temporary Teeth"; E. E. Turner, "Lesions of the Oral Mucous Membrane and adjacent tissues": A. West Walker, "The Present Dental Teaching"; Smallwood, "The Maxillary Sinus in Health and Disease"; C. C. Wood, "Cleft Palate—Causes and Treatment."

Odonto-Chirurgical Society of Scotland.

The second General Meeting of the Session 1896-97 was held on Tuesday, November 10, at 7.30 p.m., Mr. J. Stewart Durward, President, occupying the chair. Mr. Campbell reported a case of swallowing an artificial denture, and casual communications were brought forward by—Mr. Rees Price, "An old Australian custom"; Dr. Turnbull, Models of (1) An upper canine erupted between two bicuspids, (2) Gemination of lower centrals with laterals; and Mr. Ezard, "A complete portable Apparatus for Electro-Cataphoresis."

Royal College of Surgeons in Ireland.

The following gentlemen having passed the necessary examination have been granted the Licence in Dental Surgery of the College:—A. G. Hudson (Leominster); S. R. Lane (London); J. Leventon (Dublin); R. Sievers (London); W. G. T. Story (Dublin). The following gentleman passed the Primary Dental Examination:—F. H. G. Pakenham (Dublin).

The Dental Hospital of London.

Lord Kinnaird has accepted the position of Trustee to the Dental Hospital of London, Leicester Square, this, together with the fact that Mr. F. A. Bevan is another Trustee, speaks well for the charity's worthiness. It may, therefore, be concluded that the appeal now being issued for funds for a new Hospital is well worthy of the public support.

The Treatment of Leucoplakia Buccalis by complete Ablation of the Patches.

The treatment of leucoplakia buccalis by surgical measures is stated by Dr. Perrin, of Marseilles, to lead to excellent results. In the seven cases he cites, recovery has been complete and permanent in every case, there being no tendency to the formation of fresh patches. The method adopted consists in extirpating or destroying with the actual or galvano-cautery all the white patches which are more or less extensive, and present the various appearances seen in advanced leucokeratosis. The advantages claimed for this form of treatment are: (1) the patient is saved the annoyance of continuous care; (2) is protected from the complication of the condition becoming epitheliomatous; (3) the risk of the operation is practically *nil*.

The Treatment of the Temporary Teeth.

A paper by Mr. R. Bates on this subject in the *British Journal of Dental Science* contains some hints of practical value. He rather condemns the use of arsenious acid as a devitalizing agent for temporary teeth, but gives no reason against its use. In place of it he suggests the use of carbolic acid, sealing this drug in the cavity with guttapercha, and allowing the dressing to remain undisturbed for about one month. The pulp at the end of that time he states is generally "found bright red, and bleeding at the slightest touch, but scarcely at all sensitive, and can be easily cut away with a sharp rose head bar." He never removes the pulp from the canals, and fills the main pulp chamber with either iodoform and wax, or with wool saturated in iodoform and vaseline—with this method he finds his failures do not amount to more than 1 or 2 per cent. The method of treating small proximal cavities affecting both molars by bridging the filling, does not meet with his approval, and he regards it "the worst of practice, as the difficulty is easily overcome by filling one cavity with guttapercha and the other with Sullivan."

Bilateral Deformity of the Mandible.

At a meeting of the Medical Society held on November 9, Mr. G. R. Turner showed a case of Bilateral Deformity of the Mandible in a patient aged nineteen years. The vertical ramus of the jaw projected lower than the horizontal so that there was considerable prominence at the angle. There was no ankylosis of the temporo-mandibular articulation, but the patient was only able to open the mouth to a very limited extent and could not protrude his tongue. His intelligence was good. The patient had been born by a normal labour. The first and second dentition were apparently normal. The condition appeared to have become noticeable when he was between two and three years old.

Prehistoric Human Teeth.

An ordinary meeting of the Students' Society of the National Dental Hospital was held on October 9. Mr. Loftus H. Canton showed some interesting teeth which were found in a cave at Seturitz, Basses Pyrénées. These teeth, supposed to be those of the Cave Bear, were found in a bed of guano, which was in some places thirty feet deep. Along with them were large quantities of animal remains, and one curious feature was that five specimens of human teeth were found in the same place together with human remains. Whether the human remains were contemporary with those of the animals, Mr. Canton could not say. The deep bed of guano was covered by a layer of stalagmite, varying between one to five inches in thickness, and above this another layer of guano was found, but not so deep as the lower layer.

Finally at the top of all was another layer of stalagmite. The fact of the remains being situated at such a great depth, seemed to imply that they were of great antiquity.

We note with pleasure that the Board of Guardians of St. George's, East London, have recommended that a dentist be appointed to the schools under their care.

Correspondence.

We do not hold ourselves responsible for the views expressed by our correspondents.

Chloroform in Dentistry.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

Sir,—In the last issue of the Journal a death from chloroform in Hull is reported. It seems to me that death took place not from "chloroform having paralysed the lungs and caused asphyxia," but from blood and mucus having got into the trachea and caused asphyxia. Of upwards of a thousand chloroform cases in which I have operated for the extraction of teeth, only two have caused me grave anxiety. In both of these cases, the operation was done with the patient in the recumbent position, and in each case the patient was nearly suffocated with blood having run into the trachea. The same thing of course would have happened if the anæsthetic had been ether. The recumbent position is best for an operation under chloroform, but it is not so where a large number of teeth are to be extracted. In the case reported, the patient was "on a couch in the kitchen," and I presume the operation was all done in the recumbent position. At our last Annual Meeting, Dr. Hewitt showed us a good position for giving gas, I consider that to be also a good position for giving chloroform where a large number of teeth are to be extracted.

I am, yours, &c.,

November 23, 1896. J. S.

Eucaine.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

Sir,—Some time since after reading an account of the new local anæsthetic, eucaine, I procured ½oz. (Schering), and having kept a record of cases, I thought my experience might be of interest to many of the readers of the Journal. I commenced to use it a few weeks before Mr. Turner's communication appeared in the October issue, but inject much smaller doses than he appears to have used (½ gr. in

♏ v. of warm water). Possibly the absence of swelling in all the cases is due to this fact. Cocaine in $\frac{1}{4}$-grain doses has been used in my practice for many years, and I proceed with eucaine (except the dose) in precisely the same way, slowly injecting the five minims. Where there is sufficient soft tissue to take the solution without waste, it seems to be fairly successful, and as yet I have had no bad symptoms as occasionally happens with cocaine. Like cocaine, it fails to a great extent where there is considerable periodontitis.

As some pressure is generally necessary to force the liquid into the tissue, a bar on the syringe for the finger and thumb is of great assistance. In 35 cases—all having a similar dose—19 were practically without pain. In 10 there was considerable relief, and in 6 there appeared to be no difference, and in a few only was there pain during injection. I am, sir,

Your obedient servant,

November 13, 1896. T. SCOTT FOSTER, L.D.S.

The Blood Pressure as a Factor in the Eruption of the Teeth—An Epicriticism.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—Lest silence should be misinterpreted as acquiescence, will you be so good as to allow me space to express dissent from the position adopted in the editorial article of your last issue. Lacking the moral support obtained by the assumption of the editorial "we," and being unable to adopt the *ex cathedra* style of diction that such assumption appears to justify, I write rather at a disadvantage ; but the discrepancies in the article in question are so obvious that I can cheerfully accept the conditions of the controversy. In the first place, I would point out that under cover of criticising my theory, the writer has introduced one of his own, in support of which, however, he has not adduced one particle of evidence, and in the enunciation of which he is sufficiently inexact to justify the imputation of inaccuracy. He would discard the blood pressure in favour of a "tension in all parts of the body," which, he says, is ordinarily "balanced by the elasticity of skin and mucous membranes, and by the various other structures and fixed points of the body." Now, the word "tension" suggests a contractive rather than an expansive force ; yet it is a fact that most of the soft tissues of the body have, if any, an expansive tendency during life, which is balanced not alone by "the elasticity of skin and mucous membranes and by various other structures and fixed points of the body" but also by the atmospheric pressure, any great variation of which is apt to be followed by unpleasant, and even dangerous, symptoms. Nevertheless, in the enunciation referred to, this pressure, which is a matter of rather more than "a few millimetres of mercury," is altogether ignored.

When reading the editorial in question, I thought of the number of times I had seen the gum anæmic from the pressure of the advancing crown of a tooth that was just about to erupt, and also of the troubles that sometimes arise from impacted wisdom teeth, and it was impossible to reconcile such phenomena with the theory of a "tension" so slight that it can only act effectively upon a tooth "if the resistance outside it were diminished or removed." Some such reflections must have troubled our leader writer while he was yet in the throes of composition, for it is obvious that he had lost faith in his own theory before the pen was dry with which it was recorded—hence the saving clause with which the editorial concludes. This saving clause, by the by, is itself very misleading. I do not believe, but am open to conviction if adequate evidence be forthcoming, "that new growths even of the very softest sort of tissue," are "able to exercise very considerable force in displacing structures apparently much stronger than themselves." When they appear to do this it is, in my opinion, through the agency of the blood pressure and not from any inherent force of "growth." Again, in the words of the editorial, "the process [of eruption] cannot be quite a simple one." With this I altogether agree, but the object of my paper was to draw attention to the fact that the simplest element in the problem had been ignored. Many months ago, in the pages of this Journal, I recorded the fact that the pulps of the teeth have probably a trophic influence upon the alveolar portion of the jaws in which they are embedded. This fact, which has not been questioned so far as I am aware, is significant, and has a direct bearing upon the problem of eruption. To have introduced it and other like matters, would have tended to obscure the main purpose of my paper, and might have rendered it unintelligible to many who may not have given much time or thought to this particular subject. Their omission, however, scarcely justifies the insinuation that the complexity of the process has been underrated. I hope, sir, shortly to be in a position to demonstrate that it is not necessary to journey into the realms of pathology for the analogy which our leader writer has experienced so much difficulty in discovering—of which difficulty he could adduce no better proof than his own strained analogies afford. In the meantime I must express my thanks to him for his frank criticism. Although I can neither admire his analogies nor accept his assumptions, I am fully in sympathy with his evident desire to throw all possible light upon a matter hitherto very obscure.

I am, sir,
Your obedient servant,
T. E. CONSTANT.

Scarborough,
December 3, 1896.

The Dental Examination.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—The examination for the dental diploma of the Royal College of Surgeons of England may be regarded as a practical test of the student's fitness to practise his profession. At almost every stage he is required to display his knowledge and skill in things which he has met with before, and which are likely to confront him in practice. It is apt to be different with the subject of dental anatomy—at least in the written paper; here the ground is less practical, and sometimes, as in the recent question on trituberculism, wholly theoretical. This subject, the right understanding of which implies a knowledge of geology, zoology, and palæontology, though of practical value to the naturalist as a basis of classification, is to the dental student almost wholly speculative, and within the limited period of his studentship, and by no means limited number of subjects required of him, there has been little room for theorising. It is then that the temptation to cram occurs, the more so if, student like, he regards the subject as of the nature of a scientific conundrum, and unlikely to trouble him in after practice.

It may be thought that anything which finds its way into the leading text-book of dental anatomy is fair subject for examination, but it would be a poor compliment to suppose that Mr. Tomes's work was intended merely for readers for a pass examination, and not for research students and naturalists.

If we consider in what it is the student excels, and in what it is he so nearly equals the requirements of practice, we find it in the things which cannot be crammed, in his aptitude for things practical, which have engaged him from the first day of his pupilage to the time when he leaves the hospital. Were a tithe of the skill which he exhibits in fitting a crown employed in demonstrating, say, the structure of the dental pulp, or other simple established truths of dental anatomy, he would have acquired a really valuable amount of knowledge for further development in after life; but to the teacher the examination paper is read in the light of an instruction in what to prepare his pupils, be it in theoretical, or be it in practical matters.

An interesting experiment of further shaping the student is about to be tried in the domain of chemistry, metallurgy, dental histology, &c. If these departments are directed chiefly to instructing him in the means of overcoming the obstacles which beset him in practice, and if at the examination he is expected to display his knowledge by means of the test tube, the crucible, and the microtome, he will, perhaps, have learnt the secret of going direct to nature for his information, and will have acquired a wholesome distrust of the practice of cramming.

I am, sir,

Yours truly,

F. J. BENNETT.

Books Received.

Thérapeutique de la Bouche et des Dents, Hygiène Buccale et Anesthésie Dentaire, par le Dr. Maurice Roy. *Paris:* Librairie J. B. Baillière et Fils, 19, rue Hautefeuille, près du boulevard Saint-Germain 1896.

Contribution a l'Étude de l'Implantation des Dents, par M. Oscar Amoëdo, Résumé des communications faites au Congrès International de Médecine de Rome, 1894, et aux Congrès, National Dentaire de Bordeaux, 1895, et de Nancy, 1896. *Paris:* Imprimerie L. Pochy, 21, rue Croix-des-petits-champs.

The Texas Dental Journal, ΑΕΣΜΘΣ, The British Journal of Dental Science, The International Dental Journal, Welch's Monthly, Items of Interest, The Dental Cosmos, Handelingen van het Nederlandsch, Tandheelkundig Genootschap, Archives Nationales de Stomatologie et d'Art dentaire, The Birmingham Medical Review, Dominion Dental Journal, Guy's Hospital Gazette, The Gazette Montreal, Correspondenzblatt für Zahnärzte, The Montreal Daily Witness, Pediatrics, The Dental Record, Le Progrès Dentaire, Deutsche Monatsschrift für Zahnheilkunde, The Dental Review, The Dental Register, La Odontologia, Revue Odontologique, The Chemist and Druggist, The Pharmaceutical Journal, The Ohio Dental Journal, Vierteljahrschrift für Zahnheilkunde, Correo Internacional Odontológico y Clinica Dental, Magyar Fogászati Szemle

Letters and other Communications received from :—

H. Percy Joscelyne; J. Stirling; The Registrar of the Royal College of Surgeons in Ireland; R. T. H. King; T. Scott Foster.

Note.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

This book must be returned to the Dental Library by the last date stamped below. It may be renewed if there is no reservation for it.

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